96-51

TO AMEND THE HAZARDOUS MATERIALS TRANSPORTATION ACT

AND

TO AMEND THE INDEPENDENT SAFETY BOARD ACT

(96-51)

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

AND THE

SUBCOMMITTEE ON SURFACE TRANSPORTATION

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

SECOND SESSION

ON

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H.R. 6937

TO AMEND THE HAZARDOUS MATERIALS TRANSPORTATION ACT TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEARS 1981 AND 1982, AND FOR OTHER PURPOSES

H.R. 6938

TO AMEND THE INDEPENDENT SAFETY BOARD ACT OF 1974 TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEARS 1981 AND 1982, AND FOR OTHER PURPOSES

APRIL 22, 1980

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TO AMEND THE HAZARDOUS MATERIALS TRANSPORTATION ACT

TO AMEND THE INDEPENDENT SAFETY BOARD ACT

TUESDAY, APRIL 22, 1980

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
SUBCOMMITTEES ON AVIATION AND SURFACE TRANSPORTATION,
Washington, D.C.

The subcommittees met, pursuant to notice, at 10:20 a.m., in room 2167, Rayburn House Office Building, Hon. Glenn M. Anderson, chairman of the Subcommittee on Aviation, presiding.

Mr. ANDERSON. The joint meeting of the Subcommittee on Aviation and the Subcommittee on Surface Transportation will come to order.

In today's hearings, we are considering renewed authorizations for two important agencies concerned with transportation safety. First we will hear from the National Transportation Safety Board.

The NTSB was created by the Department of Transportation Act of 1966, and was established as an independent Federal agency by the Independent Safety Board Act of 1974. The Board's responsibilities include investigating and determining the probable cause of accidents in five transportation areas: aviation, highways, rail, pipeline, and marine. Following its investigation, the Board also has the responsibility of making recommendations to Federal, State, and local agencies to prevent the recurrence of accidents.

The second part of our hearing will cover the authorization for carrying out the Hazardous Materials Transportation Act, which gives the Secretary of Transportation the responsibility of establishing regulations for the safe transportation and commerce of hazardous materials.

[Copies of the bills H.R. 6937 and H.R. 6938 follow:]

96TH CONGRESS
2D SESSION

H. R. 6937

To amend the Hazardous Materials Transportation Act to authorize appropriations for fiscal years 1981 and 1982, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 26, 1980

Mr. STAGGERS (for himself and Mr. JOHNSON of California) (by request) introduced the following bill; which was referred jointly to the Committees on Interstate and Foreign Commerce and Public Works and Transportation

---

A BILL

To amend the Hazardous Materials Transportation Act to authorize appropriations for fiscal years 1981 and 1982, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 115 of the Hazardous Materials Transportation Act (49 U.S.C. 1812) is amended—

(1) by striking out "and" after "1978,"; and

(2) by inserting immediately before the period at the end thereof the following: ", not to exceed $9,079,090 for the fiscal year ending September 30,

1981, and such sums as may be necessary for the fiscal year ending September 30, 1982".

SEC. 2. Section 109(d)(2) of the Hazardous Materials Transportation Act (49 U.S.C. 1808(d)(2)) is amended—

(1) by inserting "(A)" immediately after "(2)"; and

(2) by inserting immediately after "hazardous materials" the following: ", or (B) enter into a contract with a private entity for use of a supplemental reporting system and data center operated and maintained by such entity (which contract may provide for Federal funding to assist in the operation and maintenance of such system and center), so as to be able to provide persons referred to in clause (A) of this paragraph with the information and advice described in such clause".

○

96TH CONGRESS
2D SESSION

H. R. 6938

To amend the Independent Safety Board Act of 1974 to authorize appropriations for fiscal years 1981 and 1982, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 26, 1980

Mr. STAGGERS (for himself and Mr. JOHNSON of California) (by request) introduced the following bill; which was referred jointly to the Committees on Interstate and Foreign Commerce and Public Works and Transportation

---

A BILL

To amend the Independent Safety Board Act of 1974 to authorize appropriations for fiscal years 1981 and 1982, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Independent Safety Board Act Amendments of 1980".

AUTHORIZATION OF APPROPRIATIONS

SEC. 2. Section 309 of the Independent Safety Board Act of 1974 (49 U.S.C. 1907) is amended by adding at the

end thereof the following new sentence: "There are authorized to be appropriated for the purpose of this Act such sums as may be necessary for the fiscal year ending September 30, 1981, and for the fiscal year ending September 30, 1982, such sums to remain available until expended.".

PRIORITY OF BOARD INVESTIGATIONS

SEC. 3. Section 304(a)(1) of the Independent Safety Board Act of 1974 (49 U.S.C. 1903(a)(1)) is amended by inserting immediately before "The Board may request" the following new sentences: "Any investigation of an accident conducted by the Board under this paragraph (other than subparagraph (E)) shall have priority over all other investigations of such accident conducted by other Federal agencies. The Board shall provide for the appropriate participation by other Federal agencies in any such investigation, except that such agencies may not participate in the Board's determination of the cause or probable cause of the accident.".

REPORTING OF AVIATION INCIDENTS

SEC. 4. Section 304(a)(6) of the Independent Safety Board Act of 1974 (49 U.S.C. 1903(a)(6)) is amended by inserting "and aviation incidents" immediately after "accidents".

EXAMINATION AND TESTING OF PHYSICAL EVIDENCE

SEC. 5. Section 304(b)(2) of the Independent Safety Board Act of 1974 (49 U.S.C. 1903(b)(2)) is amended—

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(1) by inserting immediately before the period at the end of the first sentence the following: ", including taking custody for any examination or testing of any vehicle, rolling stock, track, or pipeline facility (or any part thereof) which is determined to be required for purposes of such investigation"; and

(2) in the last sentence, by inserting ", examination, or test" immediately after "inspection" each place it appears.

○

The basic issue in these hearings will be to determine the funding levels necessary for the two agencies to carry out their important responsibilities. Safety has always been a major concern of our committee, and it would be extremely shortsighted to allow the current pressures for restraining Government spending to result in the inadequate funding for these two agencies at the expense of the lives and property of our citizens. At the same time, we need to resist the temptation to blindly grant any request that has a safety label attached to it, and safety agencies must be held to the same standards as other agencies and must show that their reasons are justified and that they are carrying out their responsibilities in an efficient manner.

Mr. ANDERSON. Our first witness will be Mr. James B. King, Chairman of the National Transportation Safety Board, who will testify first on the authorizations for his own agency and, second, on the hazardous materials program.

Unless there is any comment by any other member of the committee, Mr. King, the floor is yours, and we would like to have you present your colleagues.

TESTIMONY OF JAMES B. KING, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY JAMES J. SHEPARD, MANAGING DIRECTOR, NATIONAL TRANSPORTATION SAFETY BOARD; LLOYD F. MILLER, DEPUTY MANAGING DIRECTOR, NATIONAL TRANSPORTATION SAFETY BOARD; AND DENNIS W. BOYD, DEPUTY DIRECTOR, BUREAU OF ADMINISTRATION, NATIONAL TRANSPORTATION SAFETY BOARD

Mr. KING. Thank you, Mr. Chairman. I am very pleased to be here with you today to discuss our authorization request for the National Transportation Safety Board for fiscal years 1981 and 1982.

First, with me at the table are: On my left, Mr. James Shepard, our Managing Director; on my far right, Mr. Lloyd Miller, our Deputy Managing Director; and on my immediate right, Mr. Dennis Boyd, who is with the Bureau of Administration.

If you have no objections, Mr. Chairman, I would like to submit my full statement for the record and provide you and the members of the committee with a brief summary. Is that agreeable, sir?

Mr. ANDERSON. Yes; without objection, so ordered.

[Statement referred to follows:]

STATEMENT OF JAMES B. KING, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, REGARDING H.R. 6938, THE INDEPENDENT SAFETY BOARD ACT AMENDMENTS OF 1980

Mr. Chairman, I am very pleased to be here today to discuss our authorization request for the National Transportation Safety Board for fiscal years 1981 and 1982. With me at the table are Mr. James Shepard, our Managing Director, Mr. Lloyd Miller, our Deputy Managing Director, and Mr. Dennis Boyd, with the Bureau of Administration.

This morning I would like to take a few minutes first, to outline the Board's significant activities and accomplishments over the last 2 years; second, to summarize our upcoming resource needs; and third, to briefly summarize three technical changes we are seeking to the Independent Safety Board Act.

Mr. Chairman, as you know, our Nation's transportation system is a highly complex one. In terms of size alone, the transportation network is enormous. Americans own more then 100 million cars that travel over some 3.8 million miles of road annually. Scheduled trunk air carriers transported some 300 million persons in 1979 and commuter airlines carried another 12 million. The U.S. rail system is the

largest in the world with more than 300,000 miles of track and served some 19,800,000 passengers in scheduled rail service during the last year. The American merchant fleet numbers over 500 ships to meet our Nation's needs, and pleasure boats now number over 14 million. Finally, 250,000, hazardous materials shipments per day equaling over 4 billion tons are estimated to move through the transportation network in the United States and this total expected to double in the next decade.

In creating an Independent Transportation Safety Board, the Congress recognized that a system of this size and complexity will occasionally fail, and that accidents will occur. The Congress declared it our mandate to vigorously investigate such accidents and to make safety recommendations which are designed to prevent a recurrence of such tragedies.

Specifically, the Independent Safety Board Act of 1974 directed the Board to: (1) Investigate and determine the probable cause of accidents in the five transportation modes: aviation, rail, highway, marine and pipeline; (2) conduct special studies and investigations on matters that pertain to transportation safety; (3) review and evaluate the operation and performance of other agencies involved in transportation as to their effectiveness in achieving transportation safety; and (4) formulate specific safety improvement recommendations designed to prevent the recurrence of accidents in the future.

Over the last 2 years, operating within a framework of finite resources, I believe the Board has accomplished its mission in each of these areas.

ACCIDENT INVESTIGATION

The Board's investigative ability is the foundation upon which all its other products rest. In large part due to the support of this committee and its chairman, the Board has been able to develop an expertise in the area of accident investigation, particularly in the aviation mode, which has earned it widespread respect not only here in the United States, but internationally as well.

The Board devotes a significant portion of its resources to its accident investigation function. In the last 2 years, the Board conducted 121 major accident investigations and 3,062 field investigations, participates in 77 foreign investigations, and reviewed 7,322 accident investigations conducted by other Government agencies. The Board's accident investigations during this period ranged from the most comprehensive investigation in the Board's history—the crash of the American Airlines DC-10 at Chicago's O'Hare International—to the sinking of the U.S. Coast Guard cutter *Cuyahoga* in the Chesapeake Bay. Over the last year public attention has focused on Board investigations of potentially catastrophic leaks in the Alaska pipeline, the derailment of 27 tank cars carrying 2,279 tons of hazardous materials at Crestview, Fl. and on a series of commuter airline accdents which led the Board to hold a public hearing on commuter airline safety in January of this year. It is the basic information gathered by the Board in investigations such as these which form the core of our oversight program and our efforts toward accident prevention.

SPECIAL STUDIES AND INVESTIGATIONS

Over the last 2 years, the Board has undertaken an increased number of special studies and special investigations as part of my commitment to you Mr. Chairman, for more oversight activities by the Board.

We have sought to increase the number of special studies in all the transportation modes and have issued reports dealing with such various topics as the safety of multipurpose vans and the progress of safety modifications of railroad tank cars carrying hazardous materials. One special study by the Board which might be of interest to the committee, "single-engine, fixed wing general aviation accidents, 1972-76" was a statistical analysis of factors associated with over 17,212 general aviation accidents. The study concluded that the pilot was found to be a cause or factor in 86 percent of the total accidents and less than 90 percent of the fatal accidents. Airframe deficiencies were found to be the cause in less than 1 percent of all accidents and less than 2 percent of the fatal accidents. As a result of this study, the Board has asked the Federal Aviation Administration to significantly expand the exposure data it collects on general aviation pilots to include such information as age, type of license, medical waivers, and both total flying time and time in type.

EVALUATIONS OF OTHER GOVERNMENT AGENCIES

The Board has also sought to expand its oversight in the area of safety effectiveness evaluations of other Federal transportation agencies. Two years ago, the Board had never conducted a safety effectiveness evaluation. Since that time, we have conducted seven evaluations.

Because the Board has been particularly interested in utilizing its resources to do more oversight in the surface transportation modes, I would like to focus on our effort in relation to the National Highway Safety Administration (NHTSA).

The Board's evaluations of the efficacy of the NHTSA have included an evaluation of the progress made by NHTSA in implementing the national accident sampling system, a review of the NHTSA's passive restraint evaluation program and a four-volume evaluation of the NHTSA rulemaking process based on case histories involving the safety standard on air brakes (F.M.V.S.S. 121) and on passive restraints (F.M.V.S.S. 208).

The Board's evaluation of the NHTSA rulemaking process was undertaken at the direction of this committee. While the Board feels that NHTSA's rulemaking problems have improved over the last 3 years, the fourth and final volume of the Board's analysis identified several deficiencies in the current process, including the failure of NHTSA to: (1) Adequately define the precise nature and magnitude of highway safety problems; (2) consider all significant and practical alternatives to solving such safety problems; (3) adequately document decisionmaking in the agency's research and development program; and (4) plan a prompt and detailed evaluation of its proposed rules.

SAFETY RECOMMENDATIONS

The safety recommendations issued by the Board are a vital part of the Board's mandate to prevent the recurrence of transportation accidents. During the last 2 years, the Board has issued 828 recommendations, 197 in the area of aviation, 146 directed to rail, 201 to marine, 121 to pipeline, and 126 to highway. The Board is pleased to say that it has an acceptance rate of 80 percent for its safety recommendations over the last 13 years. In addition, the average number of days from the issuance of a safety recommendation by the Board to its being marked "closed-acceptable action" has been reduced from an average of 535 days in 1977 to 236 days at the present.

Mr. Chairman, when I last appeared before this committee, I stated that one of my goals as Chairman would be an improvement of our agency's recommendation followup program. In the last 2 years, the Board has made some significant changes in its followup program including the institution of a formal safety objectives program which allows us to focus on recommendations which have not been acted on in an acceptance or a timely manner. I feel that we have made headway in this regard, although follwup remains an area where I intend to seek additional improvement.

It is always difficult to identify an acceptable measure for effectiveness. Nevertheless, I strongly feel that the Board is an agency which, despite its small size, has been extremely effective in producting safety improvements in our transportation system. Let me give you some examples of why I feel this way:

(1) As a result of the 1978 public hearing held by the Board on safety equipment retrofits for jumbo railroad tank cars, shelf couplers were installed on over 90 percent of DOT 112A/114A tank cars by December 25, 1978 and over 70 percent of headshields were estimated to be installed by December 1979. This is twice as fast as had been originally scheduled.

(2) As a result of the Board's recommendations dealing with the need for satellite airports to relieve congested major hubs, the FAA is placing increased emphasis on the development or reliever airports.

(3) In response to the Board's continued emphasis on the need to improve the safety of pipelines transporting highly volatile liquids, the materials transportation bureau has assigned top priority to this area.

(4) As a result of Safety Board recommendations, the Coast Guard is developing new safety standards to improve ship steering reliability.

(5) The Board initiated action which resulted in DOT including input from local public officials and fire services in the development of the hazardous materials emergency response support system. Participation by State and local public officials, who are frequently the first to arrive on accident scenes, makes for a more viable system.

(6) Eight months ago, the Board focused its attention on the problem of commuter airline safety.

While the Board's concern with commuter safety was first greeted with a certain skepticism by some Government agencies, today the Board is pleased to note: (1) The FAA has announced a vigorous enforcement program for commuters designed to weed out the "bad apples" from this vital form of transportation; and (2) the CAB is seeking ways to strengthen the safety component involved in replacement services under the Deregulation Act.

In March 1979, the Board completed a report on the NHTSA's passive restraint evaluation program. As a result of the recommendation from this study, the

NHTSA published a detailed evaluation plan for the 208 standard, and invited public comment on this plan.

FISCAL YEAR 1981-82 AUTHORIZATION REQUEST

Let me now turn to the Board's specific authorization request. Legislation pending before this committee would provide an open-ended authorization request for fiscal years 1981 and 1982. The amount for fiscal year 1981 represents the Board's projected spending levels for approximately an 8.7 percent increase in our authorization level fiscal year 1981 would be $18,900,000 and for fiscal year 1982, $20,800,000, over our approved figure for fiscal year 1980.

In my statement to you 2 years ago Mr. Chairman, I indicated that as a Chairman of the Board I intended to increase the operational efficiency of the Board to better carry out our responsibilities. I believe that I have been successful in this endeavor to make better use of the taxpayer's dollar.

Using the performance standards established by the Bureau of Labor Statistics in 1968, the Board's overall productivity almost doubled between 1977 and 1979. The result has been an increase in productivity to the highest level in the Board's history. This productivity increase is even more significant in light of the fact that during this period the Board faced investigations of two of the most tragic and technically complex air disasters in U.S. history. I am particularly proud of this productivity increase given the fact the Board's staffing during this period has only increased by two positions.

While the Board's staffing level has remained constant, transportation use, as measured by any statistic in any transportation mode, has increased significantly, creatiang corresponding increases in accidents and injuries and in congressional and public demands for answers to transportation safety problems. In order for the Safety Board to maintain its effectiveness and to support these increased demands, the Board's authorization must provide for some increases in excess of inflationary growth.

The first program increase we propose would allow the Board to keep pace with the rapid changes occurring in transportation technology. At the present time the Federal Aviation Administration is in the process of upgrading aviation technology through: (1) The development of major new systems to improve air traffic control; (2) the improvement of collision avoidance technology; (3) the operational demonstration of microwave landing systems; (4) the modernization of communications systems; and (5) the development of an improved weather radar and data system. The aviation industry is also rapidly upgrading its aviation technology in such areas as avionics systems and computerized maintenance records.

In order for the Board to maintain state of the art competency in both laboratory hardware and the personnel necessary for analysis, we will need an increase of $114,000 in fiscal year 1981 and an estimated $200,000 in fiscal year 1982. This increase would allow the Board to fill 6 technical assistance positions and 3 positions to upgrade the Board's automated accident data system in fiscal year 1981 and 15 positions in fiscal year 1982.

The Board's second program increase is for additional resources to expand our highway program. Since 1979, the Board has unsuccessfully sought to expand its capabilities in both accident investigation and oversight in the highway mode. The Board requested funding for 29 positions in highway at the direction of the House Public Works and Transportation Committee in fiscal years 1979, 1980, and 1981. While we have not been able to obtain funding for these positions to date, we have increased our resolve to address the highway safety problems which cost this Nation 50,000 lives a year.

The Board is asking for a $550,000 increase in Fiscal Year 1981 in order to expand its highway program. In addition, to being able to increase the number of special studies in the highway mode, we hope to expand our accident investigation coverage to include all highway accidents with five or more fatalities, all highway accidents involving hazardous materials, and schoolbus accidents involving three or more fatalities.

TECHNICAL AMENDMENTS

In addition to our two program increases the Board is seeking three minor technical changes in our authorizing statute, the Independent Safety Act of 1974 (P.L. 93-633).

The first change sought by the Board is a clarification of section 304(A)(6) of Public Law 93-633 to reflect existing Board regulations governing aviation incident reports. Part 830 of the Board's regulations require an aircraft operator to report upon request, aviation incidents in five categories specified in the regulations. The Board's authority to require these reports and to investigate such incidents derives

from section 304(A)(6) although the statute is not specific in this regard. Historically, the requirement of filing incident reports with the Board upon request has been an accepted practice. However, upon occasion, some operators have been reluctant to cooperate due to the lack of specificity in the authorizing statute.

Incident reports provide an early warning of problem areas which, if corrected, can avoid the ultimate tragedy of a catastrophic accident. The Board has always regarded selected investigation of such incidents as a vital part of its mandate from the Congress.

The second amendment to section 304(A) would reduce the potential for duplicative investigations of accidents by officially recognizing in the statute, the traditional and de facto relationship between the Board and other Federal agencies during the investigation of an accident. Our amendment would make it clear that the Board has the primary responsibility for accident investigation for the rail, highway, and pipeline modes in the same capacity that it has for aviation under the Federal Aviation Act of 1958. By following the same procedures used in aviation accident investigation—the "party system"—other Federal agencies would be assured of adequate information to carry out their responsibilities while at the same time avoiding unnecessary duplication.

The third perfecting amendment to the statute would specify the Board's authority to acquire physical evidence for examination and testing as part of its investigation of accidents in the surface modes. The Board seeks to amend the statute to include the same language the Board has used for aviation investigations under the Federal Aviation Act of 1958. The Board has been exercising its authority to examine physical evidence in the surface modes under its broader statutory powers or has relied upon State and local impoundment authority. Some States and local law enforcement agencies have the authority to impound evidence and have been willing to do so for the benefit of the Board's investigators. However, not all jurisdictions have such authority and the Board has found itself in at least one instance of having to go to court to obtain physical evidence (in this case a piece of plastic pipe).

Mr. Chairman, I am grateful and the National Transportation Safety Board is grateful for your help and support over the years. This concludes my prepared remarks, and I would be happy to respond to any questions you might have.

Mr. ANDERSON. Please proceed.

Mr. KING. Thank you. This morning I would like to take a few minutes, first, to outline the Board's significant activities and accomplishments over the last 2 years; second, to summarize our upcoming resource needs; and, third, to briefly summarize three changes which we are seeking to the Independent Safety Board Act.

Under the Independent Safety Board Act of 1974, the Board was directed to, No. 1, investigate and determine the probable cause of accidents in the five transportation modes: aviation, rail, highway, marine, and pipeline; two, conduct special studies and investigations on matters that pertain to transportation safety; three, review and evaluate the operation and performance of other agencies involved in transportation as to their effectiveness in achieving transportation safety; and, four, formulate specific safety improvement recommendations designed to prevent the recurrence of accidents in the future.

Over the last 2 years, operating within a framework of finite resources, I believe the Board has accomplished its mission in each of these areas.

On accident investigation: The Board's investigative ability is the foundation upon which all its other products rest. In large part due to the support of this committee and its chairman, the Board has been able to develop an expertise in the area of accident investigation, particularly in the aviation mode, which has earned it widespread respect not only here in the United States, but internationally as well.

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The Board devotes a significant portion of its resources to its accident investigation function. In the last 2 years, the Board conducted 121 major accident investigations and 3,062 field investigations, participated in 77 foreign investigations and reviewed 7,322 accident investigations conducted by other Government agencies. The Board's accident investigations during this period ranged from the most comprehensive investigation in the Board's history—the crash of the American Airlines DC-10 at Chicago's O'Hare International—to the sinking of the U.S. Coast Guard cutter *Cuyahoga* in the Chesapeake Bay.

Our special studies and investigations: Over the last 2 years, the Board has undertaken an increased number of special studies and special investigations as part of our commitment to the committee for more oversight activities by the Board.

We have sought to increase the number of special studies in all transportation modes, and have issued reports dealing with such various topics as the safety of multipurpose vans and the progress of safety modifications of railroad tank cars carrying hazardous materials. One special study by the Board which might be of interest to the committee, "Single-Engine Fixed Wing General Aviation Accidents, 1972–1976," was a statistical analysis of factors associated with over 17,212 general aviation accidents. The study concluded, among other things, that the pilot was found to be a cause or factor in 86 percent of the total accidents and in 90 percent of the fatal accidents. Airframe deficiencies were found to be the cause in less than 1 percent of all accidents and less than 2 percent of the fatal accidents. As a result of this study, the Board has asked the Federal Aviation Administration to significantly expand the exposure data it collects on general aviation pilots to include such information as age, type of license, medical waivers, and both total flying time and time in type.

Our evaluations of other Government agencies: The Board has also sought to expand its oversight in the area of safety effectiveness evaluations of other Federal transportation agencies. Two years ago, the Board had never conducted a safety effectiveness evaluation. Since that time, we have conducted seven evaluations.

Because the Board has been particularly interested in utilizing its resources to do more oversight in the surface transportation modes, I would like to focus on our effort in relation to the National Highway Traffic Safety Administration, NHTSA.

The Board's evaluation of the efficacy of the NHTSA have included an evaluation of the progress made by NHTSA in implementing the national accident sampling system, a review of NHTSA's passive restraint evaluation program, and a four-volume evaluation of the NHTSA rulemaking process based on case histories involving the safety standard on air brakes and on passive restraints.

The Board's evaluation of NHTSA's rulemaking process was undertaken at the direction of this committee. While the Board feels that NHTSA's rulemaking procedures have improved over the past 3 years, the fourth and final volume of the Board's analysis identified several deficiencies in the current process, including the failure of NHTSA to: One, adequately define the precise nature and magnitude of highway safety problems; two, consider all significant

and practical alternatives to solving such safety problems; three, adequately document decisionmaking in the agency's research and development program; and, four, plan a prompt and detailed evaluation of its proposed rules.

The safety recommendations issued by the Board are a vital part of the Board's mandate to prevent the recurrence of transportation accidents. During the last 2 years, the Board has issued 828 recommendations: 197 in the area of aviation, 146 directed to rail, 201 directed to marine, 121 directed to pipeline, and 126 to highway.

Mr. Chairman, when I last appeared before this committee, I stated that one of my goals as Chairman would be an improvement of our agency's recommendation followup program. In the last 2 years, the Board has made some significant changes in its followup program, including the institution of a formal safety objectives program which allows us to focus on recommendations which have not been acted on in an acceptable or a timely manner.

In addition, the average number of days from the issuance of a safety recommendation by the Board to its being marked "closed—acceptable action" has been reduced from an average of 535 days in 1977 to 236 days at the present.

I feel we have made headway in followup, although this remains an area where I intend to seek additional improvement.

It is always difficult to identify an acceptable measure for effectiveness. Nevertheless, I strongly feel that the Board is an agency which, despite its small size, has been extremely effective in producing safety improvements in our transportation system. My prepared statement gives a number of examples of such safety improvements, but let me take this opportunity to focus on one—head shields and shelf couplers for jumbo tank cars; that is the 112/114A tank car.

As a result of the 1978 public hearing held by the Board on safety equipment retrofits for jumbo tank cars, shelf couplers were installed on over 90 percent of the DOT 112A/114A tank cars by December 25, 1978, and over 70 percent of the head shields were estimated to be installed by December of 1979. This is twice as fast as had been originally scheduled by DOT.

The fiscal year 1981-82 authorization request; let me now turn to the Board's specific authorization request: Legislation pending before this committee would provide an open-ended request for fiscal years 1981 and 1982. The Board's projected spending levels for fiscal year 1981 would be $18,900,000, and for fiscal year 1982, it would be $20,800,000. The amount for fiscal year 1981 represents approximately an 8.7 increase in our authorization level for fiscal year 1980, less than half of the current rate of inflation.

In my statement to you 2 years ago, Mr. Chairman, I indicated that, as Chairman of the Board, I intended to increase the operational efficiency of the Board to better carry out our responsibilities. I believe that we have been successful in this endeavor to make better use of the taxpayer's dollar.

Using the performance standards established by the Bureau of Labor Statistics in 1968, the Board's overall productivity has almost doubled between 1977 and 1979. The result has been an increase in productivity to the highest level in the Board's history. This productivity increase is even more significant in light of the

fact that during this period the Board faced investigations of two of the most tragic and technically complex air disasters in U.S. history. I am particularly proud of this productivity increase, given the fact that the Board's staffing during this period has only increased by two positions.

While the Board's staffing level has remained constant, transportation use, as measured by any statistic in any transportation mode, has increased significantly, creating corresponding increases in accidents and injuries and in congressional and public demands for answers to transportation safety problems. In order for the Safety Board to maintain its effectiveness and to support these increased demands, the Board's authorization must provide for some increases in excess of inflationary growth.

The first program increase we propose would allow the Board to keep pace with the rapid changes occurring in transportation technology. At the present time, the Federal Aviation Administration is in the process of upgrading aviation technology through: One, the development of major new systems to improve air traffic control; two, the improvement of collision avoidance technology; three, the operational demonstration of microwave landing systems; four, the modernization of communications systems; and, five, the development of an improved weather radar and data system.

In order for the Board to maintain state of the art competency as a result of these new developments, we will need an increase of $114,000 in fiscal year 1981 and an estimated $200,000 in fiscal year 1982. This increase would allow the Board to fill 6 technical assistance positions in fiscal year 1981 and 15 positions in fiscal year 1982.

The Board's second program increase is for additional resources to expand our highway program. Since 1979, the Board has unsuccessfully sought to expand its capabilities in both accident investigation and oversight in the highway mode. The Board requested funding for 29 positions in highway at the direction of the House Public Works and Transportation Committee in fiscal 1979 and in 1980 and in 1981. While we have not been able to obtain funding for these positions to date, we have increased our resolve to address the highway safety problems which cost this Nation more than 50,000 lives a year.

The Board is asking for a $550,000 increase in fiscal 1981 in order to expand its highway safety program. In addition to being able to increase the number of special studies in the highway mode, we hope to expand our accident investigation coverage to include all highway accidents with five or more fatalities, all highway accidents involving hazardous materials, and schoolbus accidents involving three or more fatalities.

On our technical amendments: In addition to our two program increases, the Board is seeking three minor technical changes in our authorizing statute, the Independent Safety Board Act of 1974, Public Law 93-633.

The first change sought by the Board is a clarification of section 304(a)(6) of Public Law 93-633 to reflect existing Board regulations governing aviation incident reports. Part 830 of the Board's regulations require an aircraft operator to report, upon request, aviation incidents in five categories specified in the regulations. The Board's

authority to require these reports and to investigate such incidents derives from section 304(a)(6), although the statute is not specific in this regard. Historically, the requirement of filing incident reports with the Board, upon request, has been an accepted practice. However, upon occasion, some operators have been reluctant to cooperate due to the lack of preciseness in the authorizing statute.

Incident reports provide an early warning of problem areas which, if corrected, can avoid the ultimate tragedy of a catastrophic accident. The Board has always regarded selected investigation of such incidents as a vital part of its mandate from the Congress.

The second amendment to section 304(a) would reduce the potential for duplicative investigations of accidents by officially recognizing in the statute the traditional and de facto relationship between the Board and other Federal agencies during the investigation of an accident. The amendment would make it clear that the Board has the primary responsibility for accident investigation for the rail, highway, and pipeline modes in the same capacity that it has for aviation under the Federal Aviation Act of 1958. By following the same procedures used in aviation accident investigation—that is, the "party" system—other Federal agencies would be assured of adequate information to carry out their responsibilities, while at the same time avoiding unnecessary duplication.

The third perfecting amendment to the statute would specify the Board's authority to acquire physical evidence for examination and testing as part of its investigation of accidents in the surface modes. The Board seeks to amend the statute to include the same language the Board has used for aviation investigations under the Federal Aviation Act of 1958. The Board has been exercising its authority to examine physical evidence in the surface modes under its broader statutory powers or has relied upon State and local impoundment authority. Some States and local law enforcement agencies have the authority to impound evidence, and have been willing to do so for the benefit of the Board's investigations. However, not all jurisdictions have such authority, and the Board has found itself in at least one instance of having to go to court to obtain physical evidence; in this case, it was a piece of plastic pipe.

Mr. Chairman, I am grateful and the National Transportation Safety Board is grateful for your help and support over the years.

Mr. Chairman, I understand that you have asked that the Board offer its comments on the authorization of the Hazardous Materials Transportation Act. If you have no objections, Mr. Chairman, I would like to submit a copy of my prepared statement on that reauthorization at this time and then give you a brief summary of my remarks on that, and it is very brief, Mr. Chairman.

Mr. ANDERSON. With no objection, so ordered.

Mr. KING. Thank you. And, of course, after this summary, I would be glad to answer any questions on either of the topics.

[Statement referred to follows:]

STATEMENT BY JAMES B. KING, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, REGARDING THE AUTHORIZATION OF THE HAZARDOUS MATERIALS TRANSPORTATION ACT

Mr. Chairman, I am pleased to be here to present testimony on behalf of the National Transportation Safety Board dealing with the Reauthorization of the Hazardous Materials Transportation Act.

As you know, Mr. Chairman, the Board actively supported passage of the Hazardous Materials Transportation Act in 1974, and we are here this morning to support the reauthorization of this vital program with the same enthusiasm. Over 250,000 hazardous materials shipment per day are estimated to move through the transportation network in the United States, and the total is expected to double in the next decade. Reports of the accidental release of hazardous materials numbered about 16,000 in 1979. However, accidents leading to casualties continued to involve primarily only a few of the over 1,800 regulated commodities. For example, from January 1977 through September 1979, nearly 80 percent of the fatalities and 20 percent of the hazardous materials releases resulting in injury involved only five specific commodities in three commodity groups—flammable liquids, pressurized liquefied gasses, and corrosive liquids. Nevertheless, the nature of some hazardous materials shipment in such that a single catastrophic accident could change these statistics overnight. For this reason, continued vigilance is essential.

The Safety Board's mandate in the hazardous materials safety field requires it to investigate and report on the safe transportation of hazardous materials in all modes. Specifically, the Independent Safety Board Act of 1974 provides that the Board must evaluate the adequacy of safeguards and procedures concerning the transportation of hazardous materials and the performance of other Government agencies charged with assuring the safe transportation of such materials.

In the past, the Board has testified before this subcommittee and others about concerns we had regarding the administration of the Hazardous Materials Act by the Materials Transportation Bureau. We have been heartened to see a willingness on the part of the current administration of the Materials, Transportation Bureau to aggressively tackle the agency's shortcomings. We believe substantial progress has been made.

For example, the Safety Board has had a long-term interest in improving our national capacity to respond to hazardous materials emergencies, and has encouraged the Materials Transportation Bureau to assume a greater leadership role in the development of a National Response Center. We are pleased by the progress made on expanding the Coast Guard's Emergency Response Center into the National Hazardous Materials Response Center. We understand that there will be a direct communications link between the center and Chemtrec, the Chemical Manufacturers Association's Chemical Transportation Emergency Center. We are also pleased to see that the MTB is exploring the possibility of the addition of the Federal Emergency Management Agency (FEMA) to the hazardous materials emergency response network in order to reduce the possibility of duplication of effort or confusion of responsibility among the various agencies.

Of particular concern to the Safety Board was the development of an emergency response program which would be responsive to the need of the various State and local officials who are the first on the scene of such hazardous materials emergencies. At the Safety Board's suggestion, the Coast Guard met with representatives of State and local law enforcement agencies and the fire services in order to assure imput from those officials on the front line. As a result, we believe there will be a significant improvement in the MTB's training and emergency response activities.

While we have been encouraged by the efforts made by the Materials Transportation Bureau, we have some remaining concerns in three areas. The first area that troubles the Board is the staffing level of the National Response Center. The Board is concerned that with a 250-percent increase in workload over the past year, and with prospects of even greater usage as local officials begin to use the National Response Center's improved capabilities, NRC staff levels may be insufficient to assure effective handling of potential emergencies.

The second area of concern to the Board is the lack of a specific timetable for the completion of the MTB's efforts in regard to an emergency response system. Without a concrete set of goals and a specific timetable for completed action, it will be difficult to assess the progress of the MTB in achieving a fully responsive system.

The third remaining concern of the Board is the absence of a clear policy regarding the routing of shipments of hazardous materials by highway or rail through populous area. Since 1971 there has been a Federal regulation which addresses the highway routing of hazardous materials (49 CFR 297.9(A)). This regulation is a general one requiring motor vehicles containing hazardous materials to be operated over routes other than through heavily populated areas. Unfortunately, no Federal guidelines exist which would enable local communities to effectively comply with the regulation, consequently, local officials and carriers must make decisions affecting hazardous materials routing on the basis of their limited experience without access to safety analyses conculsions or other appropriate data. Recognizing that the population growth may drastically change the pattern of hazardous materials routings, in 1977 the Safety Board made a recommendation to the Federal Highway

Administration urging the development of guidelines which would assist State and local communities in periodically reviewing special routing for hazardous materials on our Nation's highways. We would urge the FHA to expedite its action in this regard.

The Board is also concerned about the routing of hazardous materials by rail. In March 1979, the Safety Board published a special study evaluating the Federal Railroad Administration's hazardous materials and track safety programs. As a result of that evaluation, we recommended that the Federal Railroad Administration, in cooperation with the Interstate Commerce Commission, determine the feasibility of establishing special routes for hazardous materials to bypass dense population centers where possible. The recent evacuation of one-quarter million people in Canada as a result of a hazardous materials train derailment near Missaugua, Ontario, and the evacuation of 17,000 people near Somerville, Mass., reinforces our concern.

In response to our recommendation, the Federal Railroad Administration has undertaken a study to identify the risks involved in the rail transportation of hazardous materials in the United States. This study, in combination with population density information, should allow assessment of current and future exposure from such shipments, and the feasibility of minimizing this exposure through routing controls. The Safety Board cannot forecast whether or not the FRA study will eventually show an effective way for safer routing of hazardous materials. However, without such analysis it would be impossible to determine the effectiveness of any routing scheme. The Safety Board is, therefore, awaiting completion of the FRA study. In the meantime, we are pleased to note that at least two major hazardous materials shippers—Du Pont and DOW—have initiated their own steps to determine the safest rail routes for their shipments. These safety initiatives by shippers are welcomed by the Safety Board.

In summary, Mr. Chairman, regarding the authorization of the Hazardous Materials Transportation Act, we are encouraged by the progress in support for emergency response personnel and in the development of Federal interagency cooperation between the Department of Transportation and the Environmental Protection Agency.

While we have some remaining reservations, particularly concerning aspects of the emergency response system and policy for hazardous materials routing through populous areas, the Safety Board has been encouraged by the commitment on the part of the current leadership of the Research and Special Programs Administration to aggressively confront these problems.

When transportation safety problems are aggressively confronted, genuine improvements in safety can be achieved. FRA's Emergency Order 5 in 1975 ended the explosions by LPG in railroad yards. The tank car safeguards retrofitted on 112A/114A tank cars are now preventing almost all tank head punctures. Prohibiting unprocessed natural gas in high pressure steel cylinders reduced cylinder failure risks. We could cite other examples, but the main point is that transportation safety improvements frequently depend on aggressive leadership by the Federal regulatory agencies. That is why the Safety Board thinks aggressive timetables for completing planned safety improvements are so important.

The Safety Board's interest in the safe transportation of hazardous materials has been a continuing one. We have expressed our interest in the safe transportation of hazardous materials through safety recommendations, special studies, accident investigation reports, and in 1978, a special investigation and en banc public hearing into train derailments involving hazardous materials.

During 1979, the Safety Board adopted 30 safety recommendations and 7 reports concerning the safe transportation of hazardous materials. Although many of the safety problems we identified are common to all modes, the overwhelming majority were related to rail transportation.

The Safety Board's activities regarding the transportation of hazardous materials over the last year demonstrates our commitment to address safety problems in this important transportation area. The Board shares with you, Mr. Chairman, a sense of urgency in resolving these problems and thanks you and the members of your subcommittee for your help and support in this regard.

Mr. KING. Mr. Chairman, I am pleased to present testimony, as the chairman of the Safety Board and speaking on behalf of the Safety Board, dealing with the reauthorization of the Hazardous Materials Transportation Act.

As you know, Mr. Chairman, the Board had actively supported the passage of the Hazardous Materials Transportation Act in

1974, and we are here this morning to support the reauthorization of this vital program with the same enthusiasm. In the past, the Board has testified before this subcommittee and others about the concerns we have regarding the administration of the Hazardous Materials Act by the Materials Transportation Bureau, and I must say, Mr. Chairman, we have not always been as kind as I would like to think we are by nature during that testimony. We have been heartened to see a willingness on the part of the current administration of the Materials Transportation Bureau to aggressively tackle the agency's shortcomings. We believe substantial progress has been made.

For example, the Safety Board has had a long-term interest in improving our national capacity to respond to hazardous materials emergencies, and has encouraged the Materials Transportation Bureau to assume a greater leadership role in the development of a national response center.

We are pleased by the progress made on expanding the Coast Guard's Emergency Response Center into the National Hazardous Materials Response Center. We understand that there will be a direct communications link between the center and CHEMTREC; CHEMTREC, by the way, is the Chemical Manufacturers Association's Chemical Transportation Emergency Center.

We are also pleased to see that the MTB is exploring the possibility of the addition of the Federal Emergency Management Agency, known as FEMA, to the hazardous materials emergency response network in order to reduce the possibility of duplication of effort or confusion of responsibility among the various agencies.

While we have been encouraged by the efforts made by the Materials Transportation Bureau, we have some remaining concerns in three areas. The first area that troubles the Board is the staffing level of the National Response Center. The Board is concerned that with a 250-percent increase in workload over the past year, and with prospects of even greater usage as local officials begin to use the National Response Center's improved capabilities, the National Response Center's staff levels may be insufficient to assure effective handling of potential emergencies.

The second area of concern to the Board is the lack of a specific timetable for the completion of the MTB's efforts in regard to an emergency response system. Without a concrete set of goals and a specific timetable for completed action, it will be difficult to assess the progress of the MTB in achieving a fully responsive system.

The third remaining concern of the Board is the absence of a clear policy regarding the routing of shipments of hazardous materials by rail or highway through populous areas. In the highway area, there are no Federal guidelines which would enable local communities to effectively comply with existing Federal regulations on hazardous material shipments.

Mr. Chairman, just as an example, here in Washington you see the hazardous materials routing, the "HC," which is a white sign with a red circle. That is not a standardized sign. You may well be sitting here several years from now with an appeal that we have to redesign the entire national system so that we have a standardized sign. If we make that decision early, then all signs that are used, wherever they are financed from, will be the same, and we will not

be back having additional requests coming out of Federal highway moneys for that kind of thing because we failed to act at this moment in time when we know where we are going as a nation and as an agency.

In rail, we would urge the establishment of special routes for hazardous materials to bypass dense areas wherever possible. The recent evacuation of a quarter of a million people in Canada as a result of a hazardous materials train derailment near Missaugua, Ontario, and the evacuation of 17,000 people in the area of Somerville, Mass., reinforces our concern in this area.

While we have some remaining reservations, particularly concerning aspects of the emergency response system and a policy for hazardous materials routing through populous areas, the Safety Board has been encouraged by the commitment on the part of the current leadership of the research and special programs administration to aggressively confront these problems.

When transportation safety problems are aggressively confronted, genuine improvements in safety can be achieved. FRA's emergency order No. 5 in 1975 ended the explosions by LPG in railroad yards. The tank car safeguards retrofitted on 112A/114A tank cars are now preventing almost all tank head punctures. Prohibiting unprocessed natural gas in high-pressure steel cylinders reduced cylinder failure risks. We could cite other examples, but the main point is that transportation safety improvements frequently depend on aggressive leadership by the Federal regulatory agencies. That is why the Safety Board thinks timetables for completing planned safety improvements are so important.

The Safety Board's activities regarding the transportation of hazardous materials over the last year demonstrates our commitment to address safety problems in this important transportation area. The Board shares with you, Mr. Chairman, and the committee a sense of urgency in resolving these problems, and thanks you and the members of your committee for your help and support in this regard.

That completes my summary, Mr. Chairman.

Mr. ANDERSON. Thank you, Mr. King.

Mr. King, the Transportation Subcommittee of the Interstate and Foreign Commerce Committee recently reported a bill giving the NTSB authorizations of $18.25 million for fiscal 1981, $18 million for fiscal 1982, and $19.6 million for fiscal 1983. I would appreciate your comments on the adequacy of these authorizations.

Mr. KING. Mr. Boyd?

Mr. BOYD. Mr. Chairman, the first amount, the $18.25 million for fiscal year 1981, does not include sufficient funding for the $114,000 that the chairman mentioned in his statement for the six technical positions, nor does it include enough money—about $550,000—for the expanded highway program, which, although it is not approved in the budget, we still are pushing for approval for.

The same is true of the $18.9 million for 1982. That, again, does not provide sufficient funding for inflation, which we expect to be about 7 percent, nor does it provide the additional money for the 29 highway positions. If you continue the same type of thing into 1983, the 7-percent inflation is not included, and we also expect to be looking for additional funding authority and resources in the

area of a human factors program. All those are not included in the Interstate Commerce bill.

Mr. ANDERSON. What amount do you think you would need for 1983, if we were to do a 3-year authorization?

Mr. BOYD. $23,100,000.

Mr. ANDERSON. And 1982 would be how much?

Mr. BOYD. In 1982, would be $20.8 million, and 1981 would be $18.9 million.

Mr. ANDERSON. Thank you.

Mr. King, one of the major aviation investigations which the Board concluded last year involved the DC-10 accident in Chicago. Our committee held hearings on this accident and some of the main areas which concerned us were the adequacy of existing FAA procedures for the certification of aircraft, and for overseeing of air carrier maintenance procedures.

Did the NTSB investigation cover certification and maintenance procedures, and if so, I would appreciate your comments on the adequacy of these existing FAA procedures.

Mr. KING. Mr. Chairman, curing our investigation of the American Airlines DC-10 accident, the Safety Board initiated the most extensive investigation in the history of the agency. We expended approximately 11,120 staff hours involving 20 investigators. Normally, a major aircraft investigation involves the use of 10 of the Board's investigators. During this investigation, six investigators were assigned the purpose of reviewing the certification of the aircraft by the Federal Aviation Administration. Our investigators conducted the review of the certification at the McDonnell Douglas Co. and the Federal Aviation Administration Western Region in Los Angeles. Our review was conducted with particular emphasis on, but not limited to, the certification in the areas of design and redundant retention of connecting hardware and clearance of interconnecting parts, critical structure elements, fatigue evaluation, and damage tolerances as it related to the engine pylon combination, review of the failure modes and effects analysis—FMEA—of the aircrafts hydraulic, electrical and flight control systems. Also, we reviewed the maintainability requirements of the regulations as they applied to the aircraft.

Mr. ANDERSON. I was quite concerned when I found out about the designee system and how loose it was. Did this have anything to do with the resulting communication breakdown between Continental and American Airlines?

Mr. KING. Mr. Chairman, our investigation of the certification of the aircraft revealed that the aircraft was certified under the DER system that the aircraft was certified under the DER system with minimal monitoring by the engineering staff of the Federal Aviation Administration. This indicated that the Federal Aviation Regulations in effect at that time were complied with by the DER's; special conditions were approved by Federal Aviation Administration personnel.

Our investigation also revealed that approximately 90 percent of the flight testing of the aircraft were flown by personnel of the Federal Aviation Administration; and involved critical areas such as staff margins and critical engine-out configurations.

As you are aware, Mr. Chairman, the Safety Board made numerous recommendations for corrective action to the Federal Aviation Administration. With regard to the certification of the aircraft, including use of DER's, we did recommend to the FAA that they invite strict and comprehensive surveillance efforts of the manufacturer's quality control program, manufacturer's service difficulty and service information systems, and increased emphasis for surveillance in other areas of airworthiness compliance.

With reference to looseness of communications by the DER's and FAA as you mention, we would have to reply that in this are lack of surveillance by FAA and looseness of communications by the DER's were factors in the pylon damage problems both at Continental and American Airlines.

Mr. ANDERSON. But who would make these decisions?

Mr. KING. The decisions were made by the operators themselves and the engineering and maintenance people.

Mr. ANDERSON. But there were designees involved in those decisions that were employees of the company and who were not paid by the Government. There is a question on my part, at least, as to whether the designee process is a valid one when you get into it. There is too much money involved on one side to say you are going to think more about the company's economics than about the safety.

Mr. KING. The designee system has been a very successful system in the air transport industry and the service experience of the airlines these past 20 years can attest to this success. However, we believe that the FAA certificating authorities should have exercised tighter surveillance over much of the certification process. We recognize that economics do enter into safety decisions and for that reason we believe that FAA should be particularly cognizant of the economic factors when reviewing the work of the DER's did comply the Federal Aviation Regulations relative to the certification process.

Mr. ANDERSON. You are not going to be making a judgment or recommendation, then, as to whether we should change the designee program and have more FAA people making decisions, or whether there should be more designees, or whether there should be a closer tie between the FAA, and the designee than there is today? You are not going to make a recommendation on that until after the National Academy of Sciences makes their recommendation?

Mr. KING. Mr. Chairman, as I had previously testified, we did made recommendations to the FAA for increased surveillance by FAA of DER's. We are awaiting the report of the National Academy of Sciences as it might address surveillance of DER's, and open certification of aircraft.

Mr. ANDERSON. How do you do that when the people making the surveillance are designees?

Mr. KING. It is the FAA who is responsible for the surveillance not the designee.

Mr. ANDERSON. Well, did the designees, then, recommend against the procedures that American Airlines used in maintenance, taking the engine and pylon all off in one unit?

Mr. KING. Could you please repeat that Mr. Chairman.

Mr. ANDERSON. Did the designees recommend that the unit be taken off separately like it was supposed to be, or did they go along with the idea of taking it off—in one piece.

Mr. KING. The designees at McDonnell Douglas recommended that the engine pylon not be removed as separate components as recommended by their service bulletin. It was American Airlines engineering designee who approved the service engine/pylon procedure.

Mr. ANDERSON. That is economics, you see; that is the problem.

Mr. KING. No; I can give you a safety argument on the one hand. I am not persuaded by it, Mr. Chairman, but I am saying I can give you a safety argument that says there are 47 fewer disconnects, and the chances then for making an error on reconnecting might be persuasive. However, this also represents some substantial savings.

Mr. ANDERSON. During the past year, there has been considerable interest in commuter airline safety. The NTSB recently conducted an investigation of this issue. What did your investigation indicate about the adequacy of existing FAA regulations covering the commuters and the adequacy of FAA enforcement of its regulations?

Mr. KING. Mr. Chairman, I think it was last April that FAA announced a new commuter surveillance program. The program was comprehensive, at least as announced, and it seems to be a significant improvement, at least in its outline, over what they had in the past.

The real key question here is, can FAA maintain a high level of surveillance; that is the crucial matter—if they can maintain surveillance and the people who are doing the surveillance can operate and interact with the commuter operators themselves in a helpful and affirmative way.

There are times when you will have people who are recalcitrant and who will not act in what are the best interests of the industry and of the public, and then FAA has to move in. But I think that the cooperative spirit is critical to getting the job done. An awful lot of the folks who are out there really do want to do a good job. Many of them are not attorneys; they are pilots or mechanics. They need help; they need some guidance. They get lost in the regulations.

We do not want to be punitive toward those who may make an inadvertent error or mistake in following the regulations. So, if you could be helped rather than just cracked on the knuckles right away, that is what we are looking forward to.

I must say, though, that there are some areas that we are concerned about. For example, duty time limitations. In May 1972, the FAA said they were studying ways to establish flight and duty time limitations for part 135 pilots. Here it is 1980, and we have no action. The latest word from the FAA indicated that they would have regulatory action announced by the end of March. It is now mid-April and we have not heard anything, and it does not look as if anything is coming in the immediate future. That is a disappointing area.

Mr. ANDERSON. Let me shift for just a minute here. With respect to the transportation of hazardous materials by air, testimony we

received from the DOT last year indicated that the FAA inspects less than one-half of the actual hazardous material shipments by air, and that the FAA relies on a system of voluntary shipper compliance.

Do you have any concern with FAA's reliance on self-policing by the industry?

Mr. KING. We really appear in the safety business, as it were, when the system fails; invariably, we will appear at the time of an accident. An accident is an abnormal situation that indicates system failure. We have not had a system failure that I can recollect recently.

So all I can say is that whatever is happening right now has not triggered any kind of an accident that we are aware of, Mr. Chairman.

Mr. ANDERSON. How large of a staff does FAA have which deals with hazardous materials, and do any of these staff members specialize in aviation?

Mr. MILLER. As far as we know, there is one person in the security part of the FAA.

Mr. ANDERSON. Out of how many?

Mr. MILLER. One person, sir.

Mr. ANDERSON. How much is the total that deals with hazardous materials in the FAA?

Mr. MILLER. I am sorry?

Mr. ANDERSON. How large is the FAA staff that deals with hazardous materials?

Mr. MILLER. Other than the security area, we are not aware of any.

Mr. ANDERSON. Only one?

Mr. MILLER. Yes, sir.

Mr. KING. To the best of our knowledge. There may be more out there, Mr. Chairman, and we could get that for the record if you wish.

[The following was received for the record:]

NATIONAL TRANSPORTATION SAFETY BOARD SUBMISSION

FAA has one full-time hazaradous materials specialist at its Washington headquarters, and 210 field personnel who function as hazardous materials coordinators in addition to performing other duties.

Mr. ANDERSON. Do you not have inspectors in the field?

Mr. KING. FAA?

Mr. ANDERSON. FAA.

Mr. KING. They have some folks out there, but I do not think they are specialists in hazardous materials, per se, as I understand it. They sometimes take the training programs that are available—you know, there is a 1-week program that is available, and some are briefer—to prepare them for shipment of hazardous materials by air.

Mr. ANDERSON. Does the NTSB have any pending recommendations on the transportation of hazardous materials by air?

Mr. KING. Yes, Mr. Chairman, and if I could, I would supply them for the record. There is at least one and I do not have that information with me, sir.

Mr. ANDERSON. Will you supply those for the record?

Mr. KING. Yes, sir.

[The following was received for the record:]

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 26, 1974

Forwarded to:

Honorable Alexander P. Butterfield
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)
A-74-20 thru 26

On February 11, 1974, the National Transportation Safety Board concluded its public hearing into the Pan American World Airways accident which occurred on November 3, 1973. The aircraft was a jet-freighter carrying nearly 16,000 pounds of restricted cargo.

The Safety Board heard extensive testimony that shippers, packers, manufacturers, and carriers of restricted cargo or dangerous articles are either unaware of, or not complying with, current regulations which govern the carriage of hazardous materials by air. Therefore, the Safety Board is concerned about the lack of compliance with these regulations.

The Safety Board realizes that Federal manpower to enforce all aspects of the regulations governing the transportation of hazardous materials is not available. Therefore, it seems appropriate to focus on a limited number of check points at which noncomplying shipments can be halted. The Safety Board believes that the principal check point is the air carrier's receiving dock.

The Safety Board received several recommendations from witnesses and parties to the hearing intended to remedy the shortcomings in the handling of hazardous articles. The Air Line Pilots Association formally recommended to the Safety Board that "... all hazardous materials be banned from interstate air transportation." The Safety Board shares the Association's concern, but believes that conscientious compliance with current regulations and procedures would obviate such a drastic step. Therefore, the immediate emphasis should be on a concerted program by the carriers and the FAA to assure compliance with current regulations.

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The recommendations submitted herein are intended to be interim measures, pending a more definitive resolution of the hazards disclosed during this inquiry.

Accordingly, the National Transportation Safety Board recommends that the Administrator, Federal Aviation Administration:

1. Conduct a comprehensive inspection of each air carrier's procedures for compliance with 14 CFR 103 and 14 CFR 121.433(a), specifically with regard to receiving, palletizing, consolidating, and aircraft loading, as well as the related training. This inspection should be completed at the earliest possible date and not later than 60 days from the date of this recommendation.

2. Develop, in cooperation with the Department of Transportation, Office of Hazardous Materials, a compliance checklist to determine whether or not a shipment conforms to Federal hazardous materials regulations. This checklist should be circulated to all involved agencies and organizations.

3. Develop and disseminate information about Federal regulations which apply to air carriage of hazardous materials to the air carriers' marketing or sales representatives and their appointed agents.

The Board believes that recommendations two and three should be acted upon immediately inasmuch as they are within the scope of current regulatory authority.

The Board recognizes that the following recommendations may require additional research and evaluation before they can be implemented. However, they should be implemented as quickly as possible in light of the hazards involved.

4. Amend 14 CFR 121.597 to require the person authorized to exercise operational control over the flight in the case of supplemental air carriers and commercial operators of large aircraft to inform the captain of any dangerous articles aboard the flight, as outlined in 14 CFR 103.25. Further, amend 14 CFR 121.601 to make the dispatcher responsible in the case of scheduled air carriers, for informing the captain of dangerous articles aboard the flight, in addition to the notification required by 14 CFR 103.25.

5. Amend 14 CFR 135 to require each operator under this part to develop procedures to insure that the captain is informed of any dangerous articles aboard. This notification should contain the information outlined in 14 CFR 103.25.

6. Rescind the provision in 14 CFR 103.3(a) which allows the aircraft operator to rely on the shipper's statement as prima facie evidence that the shipment complies with the requirements of this part. Instead, require the air carrier to institute a monitoring system to assure that all dangerous articles shipped by air are inspected against all regulatory safety controls which can be verified at the air carriers receiving point.

7. Institute rulemaking to require that air carriers notify the shipper and the FAA when a shipment, or its documentation, deviates in any manner from Federal or air carrier regulations. Further, require that when nonconforming shipments are detected by the air carrier, they may not be moved until the deficiency is remedied, or the transportation of the deficient packages-- with prescribed safety controls-- is authorized by the cognizant Federal agency. The deficiencies should be entered on the shipping documents, a copy of which should be retained by the carrier and be made available to the cognizant Federal agency.

REED, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendations.

L. M. Thayer for

By: John H. Reed
Chairman

Mr. ANDERSON. Has the NTSB evaluated the staffing of FAA to deal with the transportation of hazardous materials by air, and do you believe that the staffing levels are adequate?

Mr. KING. I would say first that we do not know, and we have not done a review of any type. As I said before, we are waiting for any indications that FAA needs additional staff. We have not come across it, because we have not seen any problems. I think our last hazardous materials incident was in Boston in 1973; I believe that was Pan Am.

Mr. ANDERSON. I have a lot more questions, but I think I will let some of the other members talk. Mr. Stangeland.

Mr. STANGELAND. Thank you, Mr. Chairman.

Mr. King, in your statement you stated that the Independent Safety Board Act of 1974 directed the National Transportation Safety Board to investigate and determine probable cause of accidents in five transportation modes. The examples that you cite show that you have investigated accidents in four of those modes. However, no mention is found for the highway mode.

Would you tell us what effort, if any, your agency has made in investigating highway accidents?

Mr. KING. Yes, sir. Could I call on the Managing Director? This is Mr. Shepard.

Mr. SHEPARD. The highway mode is one of the larger growth modes, actually, Congressman. It has had a lot of attention over

the past 2 years. The stack of material in front of our Chairman here represents just the past year's output; it is a cross-section of major accident investigations, field investigations, the first special studies ever done in that mode, as well as the first oversight evaluations.

The Board program there has evolved during this period because, as I am sure you know, the Board's staff background was basically in aviation. The methodology, the investigative techniques, and the special study techniques that were developed there were somewhat tailored for that mode.

So, what we have done is use our staff in pilot programs this past 2 years to develop methodologies that work in highway. Now, the highway mode, compared to aviation, is much larger; there are many more vehicles and people involved. So it is necessary that there be a greater reliance placed on a sampling approach.

We have used the selectivity experience that we gained in the aviation mode and applied that approach to highway. We now have on the shelf ways to do special studies that require only the accident investigations that will feed those special studies; we have similar ways to do oversight effectiveness evaluations.

The two special studies done this past year were the first two the Board has done in many years in the highway mode. The four effectiveness evaluations are the first in the Board's history. So the highway program is growing. It is limited by resource constraints. We have only a limited staff in the highway mode, and we do not have excess aviation staff.

Since the aviation system is based on sampling, too, and we have a minimum staff there to do the safety job for a very small program, we cannot take resources from that mode and put them in highway.

We have built the methodology; we know how to do the highway mode at any scale that the Congress may wish. But we do not have the resources to do more than exploit what we have.

Mr. KING. Rather than just give you rhetoric, if you will, I think numbers might be somewhat reassuring. In the fiscal year that I first came here, which would cover and I was coming in looking forward—in fiscal 1977, they had done two major accident reports in highway. In the 2 year period, since I have become Chairman though, we have done 14.

In the field accident reports, from fiscal year 1976 through fiscal year 1977 we had completed only seven field accident reports in highway. In the 2-year period since I have been Chairman, we have completed 118.

In special studies, the Board had never done a special study on highway. We have now completed one. On the safety effectiveness evaluations, there had never been one done; we have done seven. On safety recommendations, there had been 75 completed in the period fiscal year 1976–77. As of this day, we have completed 159, as of the end of the fiscal year. Our NPRM comments remain constant for that 4-year period—two and two.

For the studies and evaluations, this is the material before you [indicating]. I should explain that our printed material—I am sure you have seen enough material that has come out of the Government Printing Office to put almost anyone into a coma. The docu-

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ments that we have, as you will notice, are relatively thin. They are organized for people who are in the business, who can effect change. They are precise; easy to read, and well organized. That is one of the things we have worked at.

This is the material that we have done in that area since we have been here [indicating]. This material was not done 2 years ago, so you can see a substantial effort had been made. For example, the entire budget requested for NHTSA's NAS evaluation program was in excess of our budget for the entire fiscal year.

We did an evaluation of the NAS program, and I think it had some substantial impact. We also completed a substantial four-volume evaluation of the NHTSA rulemaking process—a study undertaken at the direction of this committee. In order to provide those four volumes, our people went through almost 250,000 pages of the documents, to boil them down. If you will, if this were maple syrup, Mr. Chairman, I am sure it could win an award in almost any county fair in the country where you had a decent judge.

We also conducted a review of the safety problems of NAS. We found, for example, in the marketing area that vans were substituting for station wagons for many families; they were moving over to vans. We found that people were customizing them an awful lot, putting in special furniture and couches, and even little sinks and refrigerators, and so forth.

We did a special investigation and found out that the materials used for attaching those things to the truck itself, in even very low-speed accidents, were breaking loose and killing the occupants of the vans.

We understand that when we are dealing with almost 20 million highway accidents a year, that to get a statistical grasp out of an agency our size is next to impossible. But if we focus on what we view are some of the critical issues, do an evaluation and see what we can draw out from accident investigation material in the way of corrective action that can go directly to the heart of the problem, and make recommendations, then we feel it is a useful exercise. That is what we have tried to do. We have tried to make it as practical as we can.

Mr. STANGELAND. Thank you very much. Last year, this committee requested that you exercise an oversight function on the National Highway Traffic Safety Administration and their rulemaking process. I am under the impression that you were previously reluctant, or did not see a need to get involved in that area.

After your experiences this past year, how would you characterize the National Transportation Safety Board's attitude—still reluctant, willing, or enthusiastic—about exercising an oversight role into the safety rulemaking process of other agencies?

Mr. KING. Sir, I have never been accused of reluctance. I have viewed my oversight responsibilities with enthusiasm; I went at it that way and I was delighted. I am sure you realize this, but I will put it in context. Our 370 folks are spread all over the modes. If you take our entire budget, we could run DOT for about 121 minutes.

You know, we are a small agency; we are kind of a pebble, sometimes, in the shoe of the various DOT agencies. At best, we

could possibly be a stone in David's sling; I am not sure whether Goliath would notice us, though. So we have different techniques.

The oversight role takes time; it takes an extraordinary amount of effort. We worked on this NHTSA study for over 20 months. By the way, we think it is a useful study; we think it was well worth doing. We did case studies on the air brake and passive restraint standards as well as other standards. Out of our review of the rulemaking procedures used in three instances, we were able to draw some general conclusions about the quality of safety performance at the NHTSA.

Mr. STANGELAND. One last question, Mr. Chairman. You mentioned that your projected spending levels for fiscal years 1981 and 1982 are 18.9 million and 20.8 million. Do these projections include the funding of the 29 positions to expand your highway program?

Mr. KING. Yes, sir, and that is why I was very grateful that the Chairman cleared that up at the beginning. There had been some confusion, with several numbers moving around. I have consistently sought the level to accommodate the positions that have been recommended by the committee 2 years ago.

Mr. STANGELAND. And the administration and OMB now support the increase that you are requesting?

Mr. KING. They have taken no position on our authorization. They did not approve our fiscal year 1981 budget request which asked for these positions. I do not want the committee to think that our action on this was pro forma. That went forward, I think, on two appeals, did it not?

Mr. BOYD. That is right.

Mr. KING. I mean, I have a litany on what we have done to try and attain these positions. I sometimes feel like that voice in the wilderness.

Mr. STANGELAND. Would those 29 positions assist you in getting that highway program farther advanced?

Mr. KING. Yes. I must admit that with 400,000 people out there doing highway investigations—either as county sheriffs, highway patrol, or local police—they all do highway investigation. What we have done is more tightly focus. Those additional people would not just be, as we would call them, tin kickers. It would include the technology back-up that we need in the labs; the people who can do the analysis work; people who can look at the NAS system, for example, and look at the accident trending to help us focus where we are going.

Mr. STANGELAND. Thank you. Thank you, Mr. Chairman.

Mr. ANDERSON. Mr. Fary.

Mr. FARY. Thank you, Mr. Chairman.

Mr. King, in your prepared statement you indicate that from January of 1977 through September of 1979, nearly 80 percent of the fatalities and 20 percent of the hazardous material releases resulting in injury involved only five specific commodities in three commodity groups—flammable liquids, pressurized-liquefied gases, and corrosive liquids.

Could you provide the committee with more details on this statement? For instance, what were the specific commodities involved; were they released under similar circumstances, and is this consistent with historical patterns?

Mr. KING. That is quite a question. The answer is very complex. Could I provide the data that is necessary for response to that question for the record?

Mr. FARY. Yes, you may.

Mr. KING. Thank you very much, sir.

Mr. FARY. The next question is, should the Department of Transportation delegate its emergency response function to Chemtrec?

Mr. KING. I think they could very well give part of it. I would like to have it maintained so that there is a set of standards that are maintained. But I have no problem at all, from our point of view, with having the private sector very much involved. I think it could be a very healthy thing; it is a question of establishing the standards.

Mr. FARY. Does the DOT National Response Center use a universal, nationwide telephone number?

Mr. KING. Yes, sir. As they advertise it now, it is an 800 number; it is toll-free.

Mr. FARY. In your prepared statement you expressed specific concern over staffing of the Materials Transportation Bureau. Does the Department's funding request provide sufficient staff support for the Materials Transportation Bureau?

Mr. KING. On that one, Congressman, it was the National Response Center we were concerned about. The center is separate, I believe. With this increase in utilization that they have experienced just in the past year, and as they are involving more State and local governments and the officials who are really out there when it happens, we anticipate an increase.

What we would like them to do is to possibly respond and say, "Do you have enough staff; have you anticipated that?" I have not heard their response to that, sir. But we are concerned, and we are raising it now because we would like to have it raised now rather than, say, a year from now when you are asking why the system is not functioning as effectively as you believed it would.

So, at this time we do not know. Actually, MTB would have to respond to that, sir.

Mr. FARY. Thank you very much. Mr. Chairman, may we receive the information for the record from Mr. King with regard to question No. 1?

Mr. ANDERSON. Without objection, so ordered.

[The following was received for the record:]

NATIONAL TRANSPORTATION SAFETY BOARD SUBMISSION

The following table shows the commodities to which hazardous materials fatalities were attributed during the period January 1977 through September 1979.

Except for the gasoline incidents, we know that these releases did not occur under similar circumstances. Only two fatal accidents involving gasoline were investigated by the Safety Board during this period; they did not occur under similar circumstances. Only in the case of the eight sodium sulfhydrate (corrosive liquid) accident are we aware of a consistent historical pattern; the eight fatalities occurred because the truck driver connected his unloading hose to the wrong unloading pipe, the third such incident involving multiple fatalities during sodium sulfhydrate deliveries since 1971.

REPORTED FATALITY AND INJURY PRODUCING HAZARDOUS MATERIALS ACCIDENTS

Material	Number of injuries/fatal accidents	Percent of total injurious/fatal accidents (1054)	Percent of total fatalities (83)
Corrosive:			
Acetic anhydride	6	0.6	1.2
Acid liquid N.O.S.	12	1.1	1.2
Corrosive liquid N.O.S.	54	5.1	9.6
Combustible: Fuel oil 1, 2, 4, 5	1	<.1	1.2
Flammable liquid:			
Asphalt cut back	1	<.1	1.2
Crude oil, petroleum	4	.4	3.6
Flammable liquid N.O.S.	31	2.9	2.4
Fuel, aviation, turbin E N	4	.4	2.4
Gasoline	60	5.7	32.5
Methyl methacrylate	2	.2	1.2
Solvents N.O.S.	4	.4	1.2
Flammable gas:			
Compressed gas N.O.S.	4	.4	2.4
Hydrogen	3	.3	1.2
Liquefied petroleum gas	25	2.4	21.7
Nonflammable gas:			
Ammonia, anhydrous	34	3.2	6.0
Chlorine	12	1.1	9.6
Material prohibited	1	<.1	1.2
All others	796	78.5	0

Source: Reports filed under 49 CFR 171.16 Jan. 1, 1977 through Sept. 30, 1979.

Mr. FARY. Thank you very much.

Mr. KING. Thank you.

Mr. ANDERSON. Mr. Mineta.

Mr. MINETA. Thank you, Mr. Chairman.

Mr. Chairman, it is good to have you before the committee. First of all, given the amount that has been appropriated for NTSB and given the number of investigations you have conducted, would you say that the productivity of the NTSB has been on the increase, has leveled off, or gone down?

Mr. KING. As I said, in the 2 fiscal years preceding the last 2, it has gone in a line almost straight up, on a recovery curve. We are now at the highest level of productivity in the agency's history.

If you have a curve going up like this, Congressman [indicating], it will flatten. Our hope is that we can maintain a 3-degree climb as technological changes come in. Part of the concern that faces us—and this is a concern that we have had in the management area—is that as we move into human factors, we are going to be taking considerably more time in investigations.

We are concerned that that could be affected, because when you get into the human side, you are spending a lot more time in an investigation. Second, I think that the productivity has to be affected by the present freeze. We can feel it now. I do not know how it is going to affect us down the line, but that could affect us. But across the board, everyone has been doing some lifting.

Mr. ANDERSON. Would the gentleman yield?

Mr. MINETA. I would be more than pleased to yield to the chairman.

Mr. ANDERSON. I want to get at it in a little different context. An "Aviation Daily" report of your testimony before the Senate Commerce Committee states that you testified that there had been a

decline in NTSB productivity. Are you saying something different today than you said before the Senate Commerce Committee?

Mr. KING. No; I thought the question was in the context of how we had done in our past performance. What was raised there was the chairman had asked how our productivity had been coming since October 1 of this last year, 1979, going into 1980.

I had indicated that it had dipped and that it was taking us longer to move our products through the Board, and that had caused a drop.

Mr. ANDERSON. What was the cause of that?

Mr. KING. Well, I believe that at the time we in the Board were taking entirely too much time in working on the final drafts of reports, on redrafting and on editorial kinds of changes. I admit that the report probably read better, Mr. Chairman, when it came out. But the heart of the matter was what would not be borne in the safety area. While we had a more improved product from a stylistic point of view, would we suffer in our productivity? I am confident that we will see a change in this.

By the way, we cannot expect it to be quite as high as last year, because a combination of factors has now occurred, and that includes the freeze. But the initial thing had been that, but that has turned around, Mr. Chairman. We are moving our products through the Board in this past month in a timely fashion, so that the problem that was there a month ago is not present today.

Mr. ANDERSON. Thank you, Mr. Mineta.

Mr. MINETA. Following up on a question by my colleague from Minnesota, Mr. Stangeland, because of the mandate relative to highway safety and the fact that in the committee report there is an increase in the amount to NTSB for highway safety accident reporting—and I think that was increased by $1 million, and $275,000 was earmarked for technical consultant studies, with the hope of being able to get into that. You say you have had problems with OMB in getting that additional sum for highway safety accident investigation?

Mr. KING. Mr. Boyd works with OMB on a daily basis. I will let him respond.

Mr. BOYD. To date, we have not received anything other than a one-paragraph letter from OMB, turning down all our attempts to receive the 29 positions, or any money.

Mr. MINETA. Is that because of a perception that it may be layering what NHTSA's responsibilities might be in that area, and the reluctance to have NTSB also into that area?

Mr. BOYD. Quite frankly, Congressman, I would like to hear from OMB on what their objections to the 29 positions are, because we have not received anything other than denials, and no justification for the denials.

Mr. MINETA. We are now back up over 55,000 traffic deaths on the highways. We had a dip, evidently, in that 1974 to 1978 level because of the 55-mile-an-hour limitation, but now we have gone back over the pre-1974 level. What is the NTSB doing in looking at those traffic fatalities, and why is there an increase, given the 55 m.p.h. limitation?

Mr. KING. Well, we have increased our activities in the highway mode. First of all, we have increased the numbers of people in-

volved internally by about 20 percent, as compared to when we were here 2 years ago.

Mr. MINETA. Despite the OMB freeze on any further funds?

Mr. KING. Yes. Because OMB has consistently denied our request for the additional highway positions, all of the increase in work in highway has been accomplished by moving positions around within what is now authorized.

For example, the study that I mentioned with NHTSA took about 13,000 staff hours, about 6½ personnel years. All of these personnel years were made available from our own resources.

When I mentioned the NHTSA study, I am talking about the passive restraint program, the 121 rulemaking and the rulemaking on 208. The National Driver Register is another highway problem we looked at recently. We noticed that virtually every major newspaper in the country picked up the article on the National Driver Register. The New York Times featured it, and the Chicago Sun Times; it went all the way out to the west coast and the Midwest. Virtually every major newspaper carried a substantial article saying it was time to take a look at truckdrivers who have more than one license and that there should be a national register, so that it really dovetails into real-life situations.

We have also issued a van study that I mentioned, and we completed a study on skid resistance which you will be hearing more of as we are working with the States.

So, those are the kinds of things we have been doing, as I said, along with the 118 investigations, the 14 majors, and the safety recommendations that have been generated. We can do more, and we want to do more, but we really cannot allocate any more resources internally. The only place we could draw from would be aviation, where we have an excellent, product. And if we reach into aviation, we could destroy a really superb organization, and I am not sure whether that is really the way to go.

Mr. MINETA. Let me turn to H.R. 6938. In the legislation that the NTSB has proposed to the Congress, it is seeking authority to require the reporting of aviation incidents. The Department of Transportation has expressed its concern in a recent letter to the chairman of this committee that the legislation you are proposing could be construed to be an expansion of the Board's activity, which could conflict with the safety responsibilities of the FAA.

On the other hand, the proposal you forwarded suggested that you are only seeking reaffirmation of your long-standing practice of requiring certain aviation incidents to be reported.

Which is it? Are you merely seeking continued authority to require that incidents be reported, or are you, in fact, seeking to expand the Board's authority in other ways?

Mr. KING. Mr. Mineta, I assume that whoever drafted DOT's letter was a bit confused. I will be very specific about the problem we run into on incidents. The operators go to FAR 121 and say, "You only have specific authority for accidents—not incidents."

Then you get into one of those things where you are standing at curbside having a legal discussion, when you are trying to recover certain kinds of material for an investigation. Our problems are not with FAA, but with operators.

Since we had the accident in San Diego, there have been several incidents of near midairs out there. In this case, the operators who were involved in that had been cooperative. But with some of the operators, there would not have been cooperation and we would not have been able to complete an investigation into what happened in that incident.

We do not have the capacity to do across-the-board incident review. That is why I said that there must have been confusion. We only seek to put in the statute what is already current practice.

We do not seek to expand our authority. This is not a turf fight.

As far as the system goes, we would be flooded, if we ever had to handle all incidents. We would have to be back here talking about a major appropriation.

Mr. MINETA. Given the law as it is right now, and in response to the letter from DOT, you submitted a letter to the chairman, citing some examples of the problems that you have under the present law, is that correct?

Mr. KING. That is correct.

Mr. MINETA. Were you able to resolve these disputes, according to the enclosure you have here, through your good looks and persuasive powers, as to whether or not these were, in fact, incidents that should be under the NTSB's jurisdiction?

Mr. KING. Well, the trade off is time. What you are doing, then, is you are having this long discussion; rather than just starting your investigation right there, you have to get the vice president of operations, and you get into this long dispute. What we would like to do is just expedite it.

Almost all of the amendments that we are seeking are confirmations of current practice. What we do is eat up enormous quantities of everybody's time, for those few who do not recognize current practice. Each time we reinvent the wheel.

Again, we are looking at it from a management point of view; how do we get the most out of the people that work with us and use the taxpayer's money most effectively. I do not think that this kind of squabbling is an effective use of the resources that I am responsible for.

Mr. MINETA. So you are trying to get the CVR and the FDR—these examples took a lot of arm wrestling because of the present law?

Mr. KING. You put your finger right on it.

Mr. MINETA. Mr. Chairman, the letter of April 17 from the Department of Transportation and the NTSB letter in response—have those been made a part of the record of this hearing?

Mr. ANDERSON. No, they have not.

Mr. MINETA. I would like to suggest, Mr. Chairman, that the letter from DOT as well as the response from the Chairman of the NTSB be made a part of the record.

Mr. ANDERSON. Without objection, so ordered.

[The information follows:]

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

GENERAL COUNSEL

April 17, 1980

The Honorable Harold T. Johnson
Chairman, Committee on Public Works &
Transportation
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the Department of
H.R. 6938, a bill

"To amend the Independent Safety Board Act of 1974 to authorize appropriations for fiscal years 1981 and 1982, and for other purposes."

The Department is particularly concerned about sections 3 and 4 of the bill, which would expand the parameters of the investigatory authority of the National Transportation Safety Board (NTSB).

Specifically, section 3 of the bill would amend section 304(a) of the Independent Safety Board Act of 1974 (49 U.S.C. 1903), which relates to accident investigations for all transportation modes, to provide that any investigations of such accident conducted by the NTSB "shall have priority over all other investigations conducted by other Federal agencies." The bill requires the NTSB to make provision for "appropriate" participation of such agencies in its investigation. However, the NTSB would deliberate and find cause, probable cause or causes of such accidents without the participation of any other agency.

The Department strongly opposes this section of the bill. The Department is of the view that the proposal would not clarify the roles of the NTSB and other Federal agencies. Instead it could hamper an operating administration of this Department in its effort to conduct its own investigation of an accident. In contrast to the NTSB, which does not possess the authority to implement its recommendations, the Department may have a need, in the interest of safety, to immediately investigate an accident for purposes of necessary regulatory or enforcement action, including issuance of emergency orders.

We can see no justification for the NTSB to expand its investigatory supremacy over the agencies which have responsibility for regulatory and enforcement activities in their respective areas of transportation safety. The experience of the Federal Railroad Administration (FRA) of this Department provides a good example of the acceptability of current NTSB/Departmental relationships in modes of transportation other than air, and problems which the proposed

amendment would create. Prior to the enactment of the Independent Safety Board Act in 1975, the NTSB was almost totally reliant on FRA and other Department surface modal administrations' field personnel for the conduct of accident investigations. While functioning on behalf of the NTSB, Departmental personnel were also free to investigate under their own respective authority in order to obtain information necessary for enforcement and regulatory purposes.

Since 1975, the NTSB has deployed its own field forces of accident investigators and has ended its formal reliance on Department modal administration personnel. However, except where NTSB dispatches an investigative team from its headquarters, FRA as an example, by virtue of its broad regulatory responsibilities and larger field force, has a greater capability to deploy accident investigation teams with multidisciplinary expertise in areas such as track and structures, signals and train control, hazardous materials, operating practices, motive power and equipment. In many accident investigations, NTSB field reports and short published summaries are based almost wholly on FRA accident investigative products. FRA has been cooperative with NTSB under these conditions and has also been free to pursue its own investigations and accomplish its statutory responsibilities. However, FRA would be understandably reluctant to neglect its enforcement and regulatory responsibilities to conform to the proposal of section 3 of the bill.

As a matter of information, five years of surface transportation accident investigation experience between NTSB and Department investigators has shown a high degree of cooperation and coordination under the existing law. It has assured that:

- NTSB and DOT personnel perform largely complementary tasks;
- Information is shared freely between the agencies;
- NTSB is provided with on-scene technical expertise that otherwise would be unavailable;
- DOT and NTSB are provided with the benefits of each other's laboratory capability and other useful analysis.

While this pattern of cooperative and complementary effort minimizes duplication, it also permits both the NTSB and the Department's administrations to accomplish their respective statutory missions unimpeded and to pursue any investigative leads that may appear fruitful to either agency.

We conclude that placing a suface modal accident investigation under the primary direction of NTSB would unduly emphasize the objective of accident cause determination to the detriment of safety enforcement and regulatory functions, including the issuance of regulations, formulation of emergency orders and enforcement of safety laws through civil penalties and other sanctions.

Section 4 of the bill would amend the Independent Safety Board Act of 1974 to authorize NTSB to "establish by regulation requirements binding on persons reporting . . . aviation incidents. . . subject the Board's investigatory jurisdiction

under this subsection." Section 2 would appear to lay the foundation for incident investigations by the Board similar to its current practices for accident investigations. Such an expansion would create an overlap between the responsibilities of the Federal Aviation Administration (FAA) and the NTSB. For example, when a "system error" occurs in the air traffic system, the FAA establishes a system error review board to determine the cause or contributing causes of the system error. We see no need, and in fact would consider it as disruptive, to have a parallel review conducted of the same event by the NTSB. This same impairment of the FAA's ability to meet and deal with safety problems in a timely manner could well occur in a number of other areas. Another example would be following an incident which calls into question the airworthiness of an aircraft. Such an event requires prompt action on the part of the FAA and frequently extensive dealings and coordination with the aircraft manufacturer. For the NTSB to impose demands for information on the manufacturer or the FAA or to seek to conduct hearings in such a situation would likely delay the issuance of necessary safety rules in a timely manner.

In short, section 4, if enacted, could result in duplication of functions by two agencies (FAA and NTSB) and thus result in wasted resources. Even more troublesome, it could result in confusion, and hence delay at those very times when the needs of aviation safety would best be met by orderly and timely analysis and action on the part of FAA. We, therefore, strongly oppose the enactment of section 4.

The Department has no objections to or comments on section 5.

The Office of Management and Budget advises that from the standpoint of the administration's program there is no objection to the submission of this report for the consideration of the Committee.

Sincerely,

Mark G. Aron
Deputy General Counsel

National Transportation
Safety Board

Washington, D.C. 20591

Office of the
Chairman

APR 18 1980

Honorable Harold T. Johnson
Chairman, Committee on Public Works
and Transportation
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The National Transportation Safety Board (NTSB) was recently informed that the Department of Transportation (DOT) has expressed opposition to S. 2459, the Independent Safety Board Act Amendments of 1980. Based on our understanding of the written material provided your Committee by DOT, we are convinced that the DOT comments greatly distort the purpose of our amendments. Accordingly, it is important that we address DOT's concerns so that the Congress can objectively act on our proposed amendments.

Section 3 of S. 2459 would amend Section 304(a) of the Act to provide that transportation accident investigations conducted by the Board "shall have priority over all other investigations conducted by Federal agencies." The DOT believes this amendment would hamper DOT in its own investigations by somehow interfering with regulatory investigations. This amendment is merely an extension of the Board's current authority in aviation (Title VII, Section 701(g) of the Federal Aviation Act of 1958, as amended) to the surface modes, except marine. The Federal Aviation Administration (FAA) conducted separate investigations into the circumstances surrounding the San Diego mid-air collision and Chicago DC-10 accident. Accordingly, it is difficult to see how the DOT can state that this authority hampers an operating administration from conducting its own investigation of an accident.

Further evidence that this amendment would not hamper DOT's responsibilities is provided in their comments on the effectiveness of the surface transportation accident investigation experience over the last five years. By interagency agreement signed in May 1975 and still in force, the Board and DOT administrations established the relationship which now applies to accident investigations. This relationship is a cooperative one and provides in general that "the NTSB Investigator-In-Charge will assume control of the Federal accident investigation activities during the on-scene investigation." The DOT has stated that this cooperative and complementary

effort minimizes duplication and permits both agencies to accomplish their statutory missions unimpeded. it has always been recognized that DOT's concurrent investigations may result in immediate regulatory or enforcement actions, including issuance of emergency orders. The Board has often made recommendations which prompted such regulatory actions. DOT has not made us aware of a single instance where a Board investigation has prevented or delayed a regulatory action by any of the DOT administrations.

The DOT believes that placing surface modal accident investigation under the primary direction of the Board unduly emphasizes the objective of accident cause determination to the detriment of safety enforcement and regulatory functions. If such a detriment were going to occur, it would have in aviation after many years of this relationship. In fact, we believe the Congress, the public, the industry, and the FAA would agree that the current statute applying to aviation accident investigation is an excellent example of how well two government agencies can work together.

Although DOT's comments on the Federal Railroad Administration's (FRA) role in accident investigations do not provide support for their opposition to the Board's amendment, they should be clarified. There is no question that FRA, with almost a thousand employees as compared to the Board's less than 40 staff years assigned to railroad safety, can deploy larger numbers of personnel to an accident scene. However, the critical issue is which agency is in charge of coordinating Federal and other party activities at the scene. DOT's statement that many Board field reports are based wholly on FRA accident products is simply not accurate.

DOT admits that the current accident investigation relationships with the Board pose no problems for DOT and our amendment would merely formalize in the law these relationships. This formalization is essential for three reasons. First, the current relationships are provided for only in inter-agency agreements. Future changes in the leadership of either agency could result in revisions to the relationships which would likely reduce or eliminate the effectiveness of Federal accident investigation which DOT admits exist now. The fact that the most effective system is in aviation, which is mandated by law, further substantiates the need to formalize the surface mode relationships by law.

The second key point here is that there is a need for a primary Federal agency to coordinate the investigative activities of all Government and industry parties to an investigation. The Board's role as a coordinator of the various parties to every accident during the investigative phase insures the independence of the investigation from the self-protective interest of the regulators; through the party system, the checks and balances of having all parties privy to all information insures that all information will in fact be obtained, and all necessary corrective actions (including those which DOT should take) will be identified, and the true causes of the accident are more likely to be found.

Third, the interagency agreements do not create sufficient public awareness of which Federal agency is in charge at the accident scene. Enclosure I provides some examples where the current relationships have not worked satisfactorily. In these cases, the public has been confused as to who was in charge. This often creates situations where the public is providing the same information to two Federal agencies. The impression is left that the Federal Government is in fact a large, duplicative bureaucracy. A statutory change is needed to settle this question, thereby eliminating any controversy within the Government or confusion among other parties to an accident investigation.

Section 4 of S. 2459 would amend the Independent Safety Board Act of 1974 to authorize the Board to "establish by regulation requirements binding on persons reporting ...aviation incidents...subject to the Board's investigatory jurisdiction under this subsection." This amendment does not propose to lay the foundation for incident investigations similar to our current accident investigations. Nor does the Board have any intention of routinely conducting individual "system error" reviews; these are the responsibility of the FAA. Rather, the Board is interested in assuring that authority exists to investigate incidents which might result in a catastrophic accident, e.g., near misses over San Diego.

Part 830 of the Board's regulations requires aircraft operator reports of aviation incidents listed in five categories. The Board's authority to require these reports and to investigate the incidents, derives from Section 304(a)(4) of the Independent Safety Board Act of 1974. Historically, the requirements for filing incident reports with the Board has been accepted. However, on occasion, it has been challenged because of lack of specificity in Section 304(a)(6), which refers only to accident reporting requirements. In addition, some operators have been reluctant to cooperate (e.g., by providing recorders) in incidents not listed in Part 830. (Examples of problems the Board has encountered because of lack of this authority are provided in Enclosure II.) By including the words "aviation incident reports" in Section 304(a)(6) of the statute, any doubt regarding our authority would be removed. This will facilitate the reporting and investigation of incidents, which are a valuable source of accident prevention information. Making the authority explicit where it is now implicit would greatly enhance the Board's investigative capability in regard to aviation incidents, since it would avoid arguments, excuses, and delays which could compromise the investigation of incidents caused by the absence of specific regulatory authority.

DOT believes that this amendment would impair FAA's ability to meet and deal with safety problems in a timely manner. This argument is invalid since the Board's DC-10 Chicago accident investigation, the most comprehensive investigation ever, did not delay FAA's separate activities to examine the airworthiness of the aircraft. In truth, the opposite case could be made; namely, the Board's involvement actually resulted in faster action by the FAA. It is, therefore, difficult to conceive of how a much more limited investigation by the Board, as would be conducted of an incident, could

delay FAA action. In fact, we are surprised by the DOT position in general since in at least one case recently the Board has actually conducted a public hearing on an "incident" and issued a major report (adopted on June 29, 1978) in the case of a near collision on a runway between a North Central Airlines DC-9 and a Cessna Citation at La Guardia Airport in New York. At no time did we receive objection from DOT with respect to this activity.

We see no duplication of functions or delay resulting from this technical change in wording proposed in the law. In this event, the burden is on DOT to demonstrate such duplication and delay. Further, we would reiterate that we have no plans to expand our current "incident" activities; we have no intention of "investigating" areas in which FAA has program management responsibility, by using this incident authority. We do, however, believe that on occasion there is a need for the Board to investigate incidents in depth, and that there are certain categories of incidents which we are concerned about (such as those listed in Part 830 of our regulations since 1963), and in such cases, the Board's independent review of these areas is necessary.

We hope that this information clears up any confusion which exists concerning S. 2459. If we can be of additional assistance in this matter, please feel free to contact us.

Sincerely,

James B. King
Chairman

Enclosures

Enclosure 1

Below is a list of railroad examples in which a Federal investigation has been separately performed by both the NTSB and the FRA. Several of these investigations during 1978 are as follows:

	Railroad	Location	Accident Date
79-1	BN	Madras, Oregon	01-15-78
79-2	Amtrak	Washington, D.C.	02-15-78
79-3	AT&SF	Summit, California	03-06-78
79-5	BN/CRI&P	Fort Madison, Iowa	06-24-78
79-7	L&N	St. Joseph, Tennessee	07-06-78
79-8	MP	Hecla, Kansas	10-05-78
79-9	L&N	Crestview, Florida	04-08-78
79-10	MP/St. Louis SW	Gorham, Illinois	05-17-78
79-11	BN	Antelop, North Dakota	09-17-78

Many problems are caused by this activity; first, this is a considerable waste of manpower as all information developed by the NTSB is readily available to the FRA. Little additional information, if any, has ever been developed by the second investigation. Second, the two Federal investigations put additional expenses and burden on the railroad industry as it becomes necessary to provide each agency with information, many times the same. It also creates an impression that the Federal Government does not know what it really requires. Third, due to different approaches to the accident, the assigned probable causes may not agree. This in itself creates considerable confusion.

We believe the industry would welcome this change.

Enclosure II

A few examples of problems the Board has encountered due to lack of specific incident reporting authority in the Independent Safety Board Act are provided below.

American Airlines Boeing 707 lost the left inboard flap on descent to land at O'Hare Airport. The aircraft landed with some apparent fuselage damage. The occurrence was originally classified as an incident and an incident investigation was commenced. When American Airlines was requested to produce the CVR, they refused, citing the fact that the occurrence was classified as an incident and they did not have to comply. Our Chicago office then reclassified the occurrence as an accident and again requested the CVR. They again refused and took their complaint to the Chairman. Our investigator finally received the CVR one week later after the dispute was resolved.

An American Airlines Boeing 707 aborted a takeoff due to an engine fire warning. Our investigator took possession of the CVR because we were curious as to why there was a three (3) minute delay from the time that the aircraft cleared the runway until the evacuation order was given. Later the FDR was released as not being germane for investigative purposes, but the CVR was retained over the objections of American Airlines officials. The flightcrew was not responsive to questions by our investigator. This matter had to be resolved by the Director of the Bureau of Accident Investigation.

A United Airlines Boeing 737 experienced the loss of its A and B hydraulic systems inflight at 29,000 feet. The Captain declared an emergency and landed at Dulles International Airport. The flight deck crew was interviewed after the incident but the first officer withheld pertinent information. United Airlines operations personnel were requested to turn over the CVR and FDR for our further investigation. At that point, the first officer became indignant, objected to the use of the recorders for "incident" investigation, and contacted the Air Line Pilots Association (ALPA) for support. The matter was finally settled in the Board's favor the next day after consultation between officials.

An American Airlines Boeing 707 aborted a takeoff and blew most of its tires during the process. Minor damage was incurred to the wheels, brakes, fuselage, and wings. When reported to the New York field office, the occurrence was declared an incident. The FDR and CVR were removed from the aircraft and sent to our Washington lab for readout. American Airlines officials objected to this since they took the position that the incident did not fall within the incident classification as defined in the Board's regulation under Part 830. In this instance, the Board did not readout the recorders, but returned them to the American Airlines Safety Department for readout.

A Republic Airlines Convair 580 ran off the runway during a landing, incurring minor damage. Our Kansas City office was informed and attempted to contact the crew to determine why it happened. Our investigator received a call from the ALPA coordinator saying that he did not want the crew to make any statement over the telephone. He stated that if our investigator was willing to travel to company headquarters in Minneapolis, he could interview the crew. The investigator then requested the CVR and FDR but was refused. He was informed by a company vice president that because of union agreements, they would not furnish the Board with the recorders; since the aircraft was not involved in an accident, or one of the five incidents defined by our regulation, they were not required to do so.

66-529 O - 80 - 4

AIRCRAFT ACCIDENT RATES—1979

	Accidents		Departures	Accidents/100,000 departures	
	Total	Fatal		Total	Fatal
Air carrier	23	5	5,050,000	0.455	0.099
Commuter	61	16	2,005,800	3.041	0.798
General aviation	4,238	658	[1] 76,700,000	5.525	0.858

[1] This is an F.A.A. estimate.
Source: N.T.S.B.; SB 80-15 (Feb. 20, 1980).

Mr. KING. Mr. Chairman, I have just one add-on to that. We may also find we are in a situation where you are going to have an erasure of the cockpit voice recorder.

Mr. MINETA. Those go off a half an hour after the——

Mr. KING. Yes; they are continuous loop. Once the brakes are set, you can just reach up and hit the button, and that is it; you have wiped it clean. If there is no incident, what you needed is gone. What we are saying is, "There is clear authority; this is an incident." Then, if anyone touches anything, they have another set of problems with the regulator, not with us.

Mr. MINETA. Thank you, Chairman King. Thank you, Mr. Chairman.

Mr. ANDERSON. Mr. Levitas.

Mr. LEVITAS. Thank you, Mr. Chairman.

Mr. King, when you testified before this committee 2 years ago, I was one of the members who questioned you about the efforts of NTSB to follow up on implementation of recommendations that you made. I notice that in your testimony you state that you have, in your judgment, made headway in this regard in the last 2 years.

Could you be more specific? What do you mean that you have made headway? What have you done, and what have been the results of those efforts?

Mr. KING. We have created a system, and possibly a climate, where the turnaround time in responding to our recommendation is considerably faster. Some of the recommendations are long-term recommendations, as you know, and they may take several years to complete.

We have got about 82 percent closure right now on our recommendations to FAA. If you will, the tough ones are possibly the 18 percent. We have some recommendations, for example, in crashworthiness and survivability that have been there, I think, too long. Those are areas that we have to focus on. We feel that we have given enough leadtime.

Part of what we seek to do is to create a mentality, if you will, where people are willing to more ahead. If you view yourself as a reactor rather than an actor, you have a different philosophy and a different attitude. I think that the research and development stage in certain of these products should have people who are actors; people who are imaginative and look at the products that are here today. All too often, the research that we have seen seems more reactive; it has not provided leadership.

Mr. LEVITAS. I agree with you that the 18 percent are probably the ones, or at least a portion of them, are the ones that are the more difficult. But what type of reports are received by the Board

members as to implementation or followup of your recommendations? Do you get periodic reports; do you get status reports? How does it work?

Mr. KING. Within 90 days the recipient agency must respond to over recomendations, we evaluate their response to ascertain its acceptability. We followup on those recommendation its still outstanding at quarterly meetings with the affected agency.

Mr. LEVITAS. Between FAA and——

Mr. KING. And the NTSB, in our recommendations area.

Mr. LEVITAS. You say you have had a more timely closure rate.

Mr. KING. Yes.

Mr. LEVITAS. At one time, I understood that there was a difference in definition, if you will, between a completed action, as viewed by NTSB, and as viewed by FAA. What you would mark on your charts as being a closed action, FAA might keep open, or vice versa.

Is there a uniformity of communication or vocabulary at this point?

Mr. KING. The answer to that, I understand, is yes. They have accepted our particular operational method. As a matter of fact, just going beyond the scope of the question, we are looking at our data collection system. Therefore, as we are doing this, we do not want to do it in a vacuum. We have gone to FAA and we have basically worked out parameters of agreement, so that our data collection systems, although we have different areas of interest and focus, can talk to each other. They will be able to access our system and we can access theirs.

This was an important step. It was something we had not been able to do before, because there was an inability, really, to reconcile some differences.

Mr. LEVITAS. You mentioned crashworthiness, cabin safety, flammability, and so forth. That has been kicking around for an awfully long time. There is something called a Safer Committee which is now in process, I understand. Is NTSB in any way monitoring the activities of that? If so, are you enthusiastic, disappointed, or optimistic? How do you feel about that?

Mr. KING. Yes we are monitering safer. I am drifting into the attitude on this one that it is another study that gives us an opportunity to answer your questions, so that when you ask us what we are doing about a particular subject, we respond by saying, "We are doing a study."

Mr. MINETA. Would the gentleman yield?

Mr. LEVITAS. I would be happy to yield.

Mr. MINETA. As the gentleman is well aware, we are going to hopefully look at that. Tentatively, I think we are set for May 20 and 21 to look at safer and a number of other air cabin safety subject matters which you brought to my attention. We will be doing that in our subcommittee.

Mr. LEVITAS. I thank my chairman for that, and I know that he has been diligently pushing this.

I really get the sense, as you do, Mr. King, that that is about where we are on the thing.

Mr. KING. On the 4th of July, I had an Uncle Sam suit to wear in a parade, and it rained. I was very enthusiastic when the parade

started; I was rather disappointed about halfway through. [Laughter.]

Mr. LEVITAS. Well, I share your degree of enthusiasm. I have had occasion to speak to some of the people involved in the Safer study, and if that direction continues, it will produce, if possible, less than we had before we got into the Safer study, if that is possible.

I think that the hearings which Chairman Mineta is contemplating may lead to a little bit more imaginative activity in that regard.

Let me ask you another question. Some of the agencies do studies on safety subjects in the form of considering alternatives for the future—changes in procedure. One that comes to mind, just to illustrate what I am talking about, is the National Highway Safety Administration did a study recently on the ability of driver education courses in high school to reduce accidents and to improve driver safety.

Do studies of that sort make their way over to NTSB, so that you can put them into your deliberative process insofar as making recommendations?

Mr. KING. I must say that I have not seen that particular study, but I know that the paperflow comes in. Our professional staff reviews the work that is done. I have not personally read it; let me start with that. But I know that the material does come through and our staff does review it, and that is built into the recommendation process.

I am thinking, for example, of the tragic accident here in Crofton, Md. where a pickup truck rolled over and several young people were killed. We directed our recommendations to the people who teach driver education, there are about 26,000 of them in this country. We said,

> This is the kind of thing where you have to understand that even marginal use of either alcohol and/or drugs can take a decent vehicle, with someone with very good reflexes, et cetera—if you load it a certain way and you do certain things, the accident is catastrophic, sudden, and nonrecoverable. Will you explain this to the young people who are just starting out?

Yes, we do try and use those.

Mr. LEVITAS. Thank you.

Mr. ANDERSON. Mr. King, has the FAA's rate of acceptance of your decisions improved at all during the past 2 years? Are there any major recommendations to the FAA which the FAA has not yet responded to?

Mr. KING. In the area of crashworthiness; there are several.

Mr. ANDERSON. Could you supply that for the record?

Mr. KING. I can. I think that one of the dramatic ones is the shoulder harness; we have a number of those that are pending. I can supply them for the record, Mr. Chairman.

Mr. ANDERSON. Thank you.

[The following was received for the record:]

AVIATION -RESTRAINT SYSTEMS- SAFETY RECOMMENDATIONS

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LOG	1092
RECNO	A-79-070
FILE TYPE	RECOMMENDATION
IDATE	79 SEP 06
MODE	AVIATION
PRIORITY	CLASS II
DUE DATE	79 DEC 05
NSTATUS	OPEN - UNACCEPTABLE ACTION
FOLLOW DATE	80 JAN 04
BUREAU	
DIVISION	
MONITOR DATE	80 MAR 01

RECSUB

THE NTSB RECOMMENDS THAT THE FEDERAL AVIATION ADMINISTRATION: STRICTLY ENFORCE THE COMPLIANCE DATE FOR THE INSTALLATION OF SHOULDER HARNESSES AS REQUIRED BY 14 CFR 135.171.

RESPONSE

FAA LTR: THIS AGENCY'S ACTION OF GRANTING CERTAIN OPERATORS EXTENSIONS TO THE SHOULDER HARNESS REQUIREMENT UNDER PART 135 IS A LOGICAL SOLUTION TO A SUPPLY PROBLEM. WE ARE NOT AWARE OF ANY ABUSES BY OPERATORS IN DELAYING THE INSTALLATION OF SHOULDER HARNESSES IN THEIR AIRCRAFT.

AVIATION OCCUPANT RESTRAINT SYSTEMS- SAFETY RECOMMENDATIONS

LOG	0040
RECNO	A-77-071
FILE TYPE	RECOMMENDATION
IDATE	77 DEC 09
MODE	AVIATION
PRIORITY	CLASS II
DUE DATE	77 MAR 09
STATUS	OPEN - UNACCEPTABLE ACTION
FOLLOW DATE	79 MAR 05
BUREAU	
DIVISION	
MONITOR DATE	

RECSUB

AMEND 14 CFR 91.33 AND 135.90 TO REQUIRE INSTALLATION OF APPROVED SHOULDER HARNESSES ON ALL GENERAL AVIATION AIRCRAFT MANUFACTURED BEFORE JULY 18, 1978, AFTER A RESONABLE LEAD TIME, AND AT ALL SEAT LOCATIONS AS OUTLINED IN NPRM 73-1.

RESPONSE

FAA LETTER: THIS WAS CONSIDERED DURING THE EVALUATION OF RESPONSES TO NPRM 73-1 AND FOUND UNSUPPORTABLE. THEY FIND INSUFFICIENT JUSTIFICATION TO PROCEED WITH ANOTHER RULEMAKING PROCESS AT THIS TIME. 2/15/79 - FAA LTR: BASED ON THE INFORMATION AVAILABLE TO THE FAA AT THE TIME OF THEIR DECISIONS ON THOSE AMENDMENTS, THE AGENCY DETERMINED THAT A SHOULDER HARNESS RETROFIT REQUIREMENT WAS NOT APPROPRIATE. FURTHER, IT WAS ALSO BELIEVED THAT DELETHALIZATION OF LIGHT AIRCRAFT CABINS WOULD BE PREFERABLE TO A REQUIREMENT THAT ALL SEATS BE EQUIPPED WITH SHOULDER HARNESSES. HOWEVER, FAA HAS COME TO THE CONCLUSION THAT THEIR EARLIER DECISIONS REGARDING THESE ISSUES SHOULD BE RECONSIDERED. AN ANALYSIS OF THESE ISSUES WILL BE CARRIED OUT AND OPTIONS WILL BE CONSIDERED.

AVIATION -RESTRAINT SYSTEMS- SAFETY RECOMMENDATIONS

LOG	0840
RECNO	A-77-070
FILE TYPE	RECOMMENDATION
IDATE	77 DEC 08
MODE	AVIATION
PRIORITY	CLASS II
DUE DATE	77 MAR 08
NSTATUS	OPEN - UNACCEPTABLE ACTION
FOLLOW DATE	79 MAR 05
BUREAU	
DIVISION	
MONITOR DATE	

RECSUB	RESPONSE
✓AMEND 14 CFR 23.785 TO REQUIRE INSTALLATION OF APPROVED SHOULD HARNESSES AT ALL SEAT LOCATIONS AS OUTLINED IN NPRM 73-1.	FAA LETTER: THIS PROPOSAL WAS CONSIDERED IN NPRM 73-1. IT WAS NOT CONSIDERED SUPPORTABLE IN THE RULEMAKING PROCESS AND THE BOARD HAS PROVIDED NO NEW INFORMATION TO JUSTIFY FURTHER RULEMAKING ACTION. AMENDMENT NO.'S 23-19 AND 91.189 SET FORTH IN DETAIL THE REASONING FOR THE WITHDRAWAL OR ADOPTION OF PROPOSALS IN NPRM 73-1. 2/15/79 - FAA LTR: BASED ON THE INFORMATION AVAILABLE TO THE FAA AT THE TIME OF THEIR DECISIONS ON THOSE AMENDMENTS, THE AGENCY DETERMINED THAT A SHOULDER HARNESS RETROFIT REQUIREMENT WAS NOT APPROPRIATE. FURTHER, IT WAS ALSO BELIEVED THAT DELETHALIZATION OF LIGHT AIRCRAFT CABINS WOULD BE PREFERABLE TO A REQUIREMENT THAT ALL SEATS BE EQUIPPED WITH SHOULDER HARNESSES. HOWEVER, FAA HAS COME TO THE CONCLUSION THAT THEIR EARLIER DECISIONS REGARDING THESE ISSUES SHOULD BE RECONSIDERED. AN ANALYSIS OF THESE ISSUES WILL BE CARRIED OUT AND OPTIONS WILL BE CONSIDERED.

AVIATION -RESTRAINT SYSTEMS- SAFETY RECOMMENDATIONS

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LOG 0701
RECNO A-76-080
FILE TYPE RECOMMENDATION
IDATE 76 JUN 10
MODE AVIATION
PRIORITY CLASS II
DUE DATE 76 SEP 10
NSTATUS OPEN - UNACCEPTABLE ACTION
FOLLOW DATE
BUREAU
DIVISION
MONITOR DATE

RECSUB

ISSUE AN AIRWORTHINESS DIRECTIVE TO REQUIRE THAT THE SEATBELT TIEDOWN RINGS ON ALL BOEING 727 FORWARD JUMPSEATS BE RELOCATED SO THAT THE SEATBELT WILL BE POSITIONED ACROSS THE OCCUPANT'S PELVIC GIRDLE AT THE RECOMMENDED ANGLE WITH THE SEATPAN OF 45 DEGREE TO 55 DEGREE

RESPONSE

THE FAA INVESTIGATION REVEALED THERE WAS NO RECORD OF MEDICAL TEST DATA WHICH SUBSTANTIATES THAT DETRIMENTAL EFFECTS WOULD BE SUSTAINEDBY OCCUPANTS USING SEATBELTS AT ANGLES REPRESENTATIVE OF THE B-727. THE FAA IS NOT AWARE OF ANY ACCIDENT INJURIES THAT CAN BE ATTRIBUTED TO THE USE OF SEATBELTS OF WHICH THE ANGLE WITH THE SEAT PAN IS OUTSIDE THE RANGE RECOMMENDED BY THE NTSB, AND WE HAVE NO RECORD OF ADVERSE SERVICE EXPERIENCE. BASED ON THE RESULTS OF THESE INVESTIGATIONS, WE CONCLUDE THAT A CRITICAL UNSAFE CONDITION DOES NOT EXIST, AND ISSUANCE OF AN AD IS NOT WARRANTED.

AVIATION -RESTRAINT SYSTEMS- SAFETY RECOMMENDATIONS

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LOG 0701
RECNO A-76-081
FILE TYPE RECOMMENDATION
IDATE 76 JUN 10
MODE AVIATION
PRIORITY CLASS II
DUE DATE 76 SEP 10
NSTATUS OPEN - UNACCEPTABLE ACTION
FOLLOW DATE
BUREAU
DIVISION
MONITOR DATE

RECSUB

✓INSPECT THE FLIGHT ATTENDANT JUMPSEATS ON ALL OTHER AIR CARRIER AIRCRAFT TO INSURE THAT THE SEATBELT TIEDOWNS ARE POSITIONED PROPERLY; WHERE IMPROPER INSTALLATIONS ARE FOUND, TAKE IMMEDIATE ACTION TO REQUIRE THAT THE TIEDOWNS BE RELOCATED.

RESPONSE

FLIGHT ATTANDANT SEAT RESTRAINT SYSTEMS ON ALL OTHER AIR CARRIER AIRCRAFT WERE EXAMINED INCLUDING THOSE OF THE WIDE-BODY JUMBO JETS. RESULTS OF THIS EXAMINATION AND SUPPORTING SERVICE HISTORY INDICATE THAT THE TIEDOWNS ARE PROPERLY POSITIONED; THEREFORE, NO FURTHER ACTION IS CONTEMPLATED.

Mr. ANDERSON. When you make recommendations to other agencies on safety, do you undertake any kind of cost-benefit analysis with respect to the recommendations? If not, did you give any consideration to the cost of what you are recommending here today?

Mr. KING. Yes, sir. Cost-benefit analysis is a term of art, as you know, sir; we do not do such analysis. What we do, though, is try and find the parameters of the cost. For example, if we are talking about the installation of a mode C transponder on a general aviation aircraft, the question always arises, what would this cost and what are the costs involved. We try to weigh those factors in a real-world situation as to what the benefits are, so that when we make a recommendation, it will be made in that context, as a rule.

Is there a formal procedure? No, not necessarily; it is a judgment call. The one thing about the transcripts of our board meetings is that they certainly have an awful lot of questions by our board members raising the cost question. But as I say, we do not do a formal cost-benefit analysis; we leave that to the regulatory agencies who are equipped to do that.

Mr. ANDERSON. The FAA has recently proposed legislation to increase civil penalties from $1,000 per offense to $25,000. Do you think that this change would improve aviation safety?

Mr. KING. I would say yes, generally we do. I will tell you why. I think the $1,000 fine could become, in some situations, just a cost of doing business, and it really does not become an effective lever for corrective action, if it does not fit in the real world. FAA feels that the old numbers no longer fit in the real world; they feel that the new numbers do.

But I think I come back to something I said earlier in response to a question that the members asked, and that was that it should be done in a cooperative spirit, not punitive. That is our concern. For the operator who is deliberately disregarding and knows better, then you have to get their attention; you have to make it painful. It just cannot be dismissed as a cost of doing business.

On the other hand, if someone should inadvertently make a mistake, we would like to think that there would be help forthcoming. So we are really preaching, I think, a little more balance. But the answer is that we believe it will.

Mr. ANDERSON. I have been contacted by several commercial airline pilots and they are really concerned about this $25,000 recommendation; I guess it affects them personally. One of them said, "You just cannot fly out of a major airport today without violating some rule or some law." I said, Well, that is a pretty sad comment." Do you have any comment on that, or is that a wrong analysis?

Mr. KING. Well, it is not a wrong analysis.

Mr. ANDERSON. He says he can hardly fly out without violating some rule, and that the $25,000 is——

Mr. KING. I think what we are doing is taking the extreme end of the spectrum and saying, "Would that apply?" I think what we are talking about is the person who dispatches into bad weather; we are talking about the person who sends an aircraft out that is not airworthy. Those are the kinds of things where we are looking for tough enforcement.

I know I have read about some air carriers where there have been some very serious deficiencies that have gone unfixed. I expect, by the way, that FAA would really use its authority sensibly and prudently, and I think that was what I was trying to raise earlier.

Mr. ANDERSON. Section 304(b)(7) of the Independent Safety Board Act requires that when the Board submits any budget request, legislative recommendations, or prepared testimony to the President or the OMB, a copy must be transmitted to Congress.

Could you describe your compliance with this provision, and do you interpret it as requiring a report to Congress on every informal contact with OMB on the budget and legislation, or only as requiring a report to Congress with respect to formal, official comments and recommendations by the Board?

Mr. KING. I think that we are in contact with all of the parties, both with the Congress and their staffs and OMB, on an informal basis, and we try to communicate everything. I believe we felt initially—by the way, I have practiced it since I have been here, so if I am wrong, this is the time to tell me—that anytime we submit any thing formally, there are conversations which are widely spaced, and then there are those that are, shall we say, sincere proposals. We put sincere proposals in writing, and at that time all the parties are notified in writing.

Informal conversations, as a rule, are just that; they are informal conversations. I felt in practice, upon reading and looking at the history of the Board, that if I were ever contacted, though, in the line of my official duties on something that those parties felt I either should or should not do, whether that was informal or formal, I would contact the committee. That is how I understood it. Quite frankly, I viewed it as something that would keep us all honest.

Mr. ANDERSON. Your field chiefs' task force suggested that greater Board oversight is needed over the following FAA safety activities: standards, weather briefings, enforcement, biannual flight service reviews, pilot training, certification of flying instructors' schools, and pilot education.

Would you state for the record if you agree with these observations, and what, if anything, are you doing to address these problems through safety effectiveness evaluations?

Mr. KING. When I originally came to the Board, I found that our field chiefs used to get together, and it was very similar to an old fashioned fish fry, kind of swapped stories and talked about furniture sales, and so forth. What we tried to do was to structure a program for more usefull discussion. These items you mentioned come from one of these discussion groups, but did not reflect any kind of formal agreement. I believe the Managing Director worked with that particular program and can speak to any of these on specific terms.

Mr. SHEPARD. If I could just add a couple of points here, Congressman, the subjects—those and many others were discussed at that particular meeting, and the followup actions have included a number of things, such as a complete restructure of our aviation accident data system which will make all of the data that is collected, hopefully, better feed the special studies and the other products

of the Board. So those actions by those field chiefs did generate results, but not specific things in those narrow subject areas.

Mr. ANDERSON. I would appreciate your comments on the allocation of the Board's resources between the different transportation modes. The data supplied to the committee indicates that, in fiscal year 1979, 59 percent of the Board's resources were devoted to aviation, although aviation accounted for only 3 percent of all transportation fatalities. What are your views on the proper allocation of NTSB resources between the different transportation modes?

Mr. KING. Just to set the stage, and then I would like the Managing Director to respond, possibly, to a chunk of this. As long as we keep in mind that the players in aviation are all located basically here—the NTSB has approximately 165 people involved in aviation. The only figures I have been able to get, where FAA actually cited numbers—Mr. Shaffer testified several years ago and he indicated that he had approximately 65 man-years.

So what we are talking about is a total number of people involved in actual accident investigation. Aviation has always been a total Federal responsibility with about 230 people. Now, you compare that with highway; if you take all the resources at the State, local, and county levels, and then include your highway participation on a Federal level, you are talking in excess of 400,000 people that are involved in accident investigation to some degree.

Now, people may say that the local police officer only does 10 percent of his work in accident reporting, but he is viewed as a player in the accident process. What I am saying is that you have a very small unit that is centralized working with aviation. Highway is dispersed among all of the political subdivisions that we are aware of, so it is a very different kind of situation. The Federal interest in it, as you know, is very different, Mr. Chairman.

Now, as to how we make our decisions, I would like to yield on that to the Managing Director, because he deals with that on a day-to-day basis.

Mr. SHEPARD. First of all, sir, the Board, as you know, has less than 400 people, including our 10 field offices. We have less than 300 people here in Washington, and of those, only 45 percent are actually in aviation. So we do have a significant portion of our resources devoted to the other modes and the other functions.

However, the background is definitely in aviation in terms of the Board's past in its investigative techniques, its special studies techniques, and its evaluation techniques. The program in aviation that has evolved over time is essentially a sampling-based program. We do not investigate all accidents; we only look at the fatals. We oversee FAA investigations of the others. So the Board resource is a skeleton resource for aviation—about 45 percent of our strength.

So what we have done this past year is develop similar methodologies for investigations in the highway mode, and we can expand as needed in the highway mode. But the national highway problem is massive and the gain realized in highway by shifting personnel from aviation would not compensate for the lost capability in aviation. So we do not think that further reprograming makes any sense. We have done it to the extent that we can through saving overhead resources. The chairman spoke to that earlier.

Mr. KING. Mr. Chairman, most of our investigation work is mandated under the law. If you are a firefighter, you respond to the fires as they are called in; that is what we do. When we are back at the firehouse now, what we have instituted—and this is why we have been able to have the increased productivity that we are talking about—we took the checkerboard and the television out, if I can stay with my firehouse discussion, and we now do work back at the office that had not been done before.

It is an additional workload for the folks, because when they are in the field, they put in long hours under some very, very difficult conditions, both physically and psychologically. When the folks come back, their workload is increased.

That aviation part, I think, is a balance, and that is what I raised before. We cannot take anymore from aviation. As a matter of fact, we are asking for six additional positions for aviation to meet the increased technology and to stay abreast of where the industry is going.

I do not think the modes should compete with each other in that sense in an agency like ours. It really would not make any sense from our perspective if they did.

Mr. ANDERSON. I would also appreciate your comments on the allocation of resources between accident investigation and other oversight functions. Now, data supplied to the committee indicates that general oversight activities produce three times more safety recommendations per staff year than do field investigations of specific accidents.

In view of this data, do you think it would be desirable to direct more attention to general oversight and delegate more authority to conduct investigations of specific accidents?

Mr. SHEPARD. We do not, sir. The field organization is really a small part of the overall investigative function of this Government. We have less than 100 people in our field structure. They carry out the accident investigations involving fatalities in aviation; they carry out accident investigations in the rail and the highway modes. More important than that, they provide the superstructure for the oversight of the investigations conducted by the regulatory activities. They give us a national investigative system that is compatible.

In addition to recommendations, there are many other products of that field structure, and these include the safety accomplishments—the things that are put into effect onsite by the regulator because the investigator is there and can make recommendations at the site directly. Last year, we had 91 of those safety accomplishments, and if you add those to the actual recommendations that came through the system, the field organization is compatible in terms of recommendations to the Washington-based organization. So we think the field structure is productive, and it is also essential.

Mr. KING. Mr. Chairman, just as an addon, our special reports are based on accident investigation and what happened in a real accident in real life; they are not just some sort of an overview study. So we understand that there is an interrelationship between the disciplined investigations and the studies that are generated from them. Those investigations are done in the field.

Mr. ANDERSON. I think you mentioned the 6 technical assistant positions, but I do not believe you mentioned the 3 positions to upgrade the Board's automated accident data system in fiscal year 1981, and the 15 positions in fiscal year 1982, did you?

Mr. SHEPARD. Mr. Chairman, the Board's aviation data system was designed in the early 1960's. There have been a lot of improvements in technology since then, so it is not, in today's world, very efficient in terms of its internal processes.

We do not have on our staff a single computer or systems analyst, or data-oriented individual. We have a lack of expertise and skill in the data area, so these three positions are focused on providing some expertise and some skills there.

Mr. ANDERSON. Do the funding levels that you have recommended include these positions?

Mr. SHEPARD. They do, sir. I should add here that the United States is a participant in the ICAO treaty arrangements with other countries. The data elements that we pick up on these accidents include those that are required under the treaty arrangement. At last fall's meeting of ICAO, a decision was taken to look at these data elements and expand them into the human factors area to a greater extent than we do now, and this too is motivating the upgrade of the U.S. system.

Our system, in fact, is the one after which the international system was tailored. If we can move forward, we expect that they will continue to stay lined up with us. It is really needed, because about 86 percent of the accidents are pilot error accidents. We need more human factors data, and this project is aimed specifically in that direction.

Mr. ANDERSON. Any further questions of the panel?

[No response.]

Mr. ANDERSON. Apparently not. Thank you, Mr. King, Mr. Shepard, Mr. Miller, and Mr. Boyd, for your presentation.

Mr. KING. Thank you very much, Mr. Chairman.

Mr. ANDERSON. Our next witness this morning is Mr. Howard J. Dugoff, the Administrator of the Research and Special Programs Administration, Department of Transportation.

Mr. Dugoff, the full text of your prepared statement will appear in the record at this point.

[The statement referred to follows:]

STATEMENT OF HOWARD J. DUGOFF, ADMINISTRATOR OF THE RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION BEFORE THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION U.S. HOUSE OF REPRESENTATIVES

April 22, 1980

Good morning:

I am Howard Dugoff, Administrator of the Research and Special Programs Administration (RSPA). I am accompanied by Mr. Lee Santman, Director of the Materials Transportation Bureau of RSPA, and Mr. Richard Lally, Director of the Office of Civil Aviation Security, Federal Aviation Administration. I am pleased to have the opportunity this morning to appear before the Subcommittees on Aviation and Surface Transportation and to describe for you some major initiatives which the Department of Transportation is taking with respect to the safe transportation of hazardous materials and to discuss our request for authorizations to continue to operate the program during fiscal year 1981.

I will begin with a few general remarks about the Department's perspective on hazardous materials transportation. Secretary Goldschmidt and I both believe that this area poses some of the most pressing problems now confronting the Department, and we are seeking to enhance our countermeasure program substantially. At a time when we are all conscious of the need for reduced public expenditures in the fight against inflation, this has necessitated hard and thoroughly considered choices on the part of the Department and the Administration. Within what we consider the leanest possible Departmental budget for FY 1981, we have decided to meet this compelling need for action, even at the expense of reductions in other important programs.

The President's anti-inflation initiatives will be accomplished in the Department of Transportation without cutbacks in our public safety responsibilities. As Secretary Goldschmidt testified before your subcommittee on surface

transportation on April 1, "our concern for safety will continue to override all other objectives. None of the reductions we are now proposing will adversely affect any activities aimed at maintaining and improving safety. . . . Our activities in . . . the transportation of hazardous materials will continue at levels proposed in the January budget." So you may be assured that the amounts we are requesting today are those which we are convinced are necessary for the success of our hazardous materials transportation programs and that they have been determined to be in keeping with the important goal of reducing overall Government expenditures.

Quite frankly, we have not done enough in the past and there is a real need to catch up. The Secretary and I have reached these conclusions in large part because we have heard and understood the criticism of which the Department has been the target from public and Congressional sources during the past several years. In the wake of several major rail incidents, no less than six Congressional subcommittees have conducted oversight hearings and produced reports on one or another aspect of the Department's hazardous materials program. The General Accounting Office, the Library of Congress, the National Transportation Safety Board, and the National Governors' Association have also conducted studies in the area. As we reported to you a year ago, the Department began to respond to this criticism by establishing a Hazardous Materials Transportation Task Force which identified some major shortcomings of our program and recommended a comprehensive series of administrative actions to correct them. I am pleased to be able to report today that all of these actions have already been successfully completed or are well underway at this time.

If we are to deal effectively with the problems associated with the transportation of hazardous materials, we must now support our administrative responses with significantly increased funding. We are confident that the payoff will more than justify the investment. The failure to respond adequately to the challenge in this area will be characterized by increasing societal costs

in the form of injury, property damage and the disruption of whole communities. The increased expenditure of Federal funds on the front end, so to speak, will result in reductions of the societal costs to a degree which will, in our judgment, more than offset those increases.

Breaking our request down further, you will see that we are planning a six-fold increase in the operations portion of the program, while R&D activities will more than double. The increase in administrative support expenses is in the neighborhood of 17 percent. Thus, we are requesting $2.782 million for administrative support, $4.442 million for operations, and $1.855 million for research and development support.

Although we are proposing significant increases in virtually all program areas, the most substantial are in the related areas of Training and Emergency Response. Last year, this Subcommittee expressed strong concern over the need to improve the national capability to respond to hazardous materials emergencies. Our analysis of the nature of such emergencies leads us to conclude that the need cannot be met by assembling a vast national emergency squad; that would simply not be economical or practical. We believe that the proper Federal role is to provide appropriate information and training assistance to the State and local officials best able to deal promptly and effectively with the jobs of control and cleanup at the emergency scene.

In the coming year, we plan to devote $450,000 to operations and R&D programs directed towards developing new guidance for state and local officials as to the safest and most effective techniques for identifying and dealing with hazardous materials emergencies. We have earmarked $500,000 for program development and demonstration projects, whereby local governments or planning units will be helped to survey current physical and institutional frameworks for emergency response in a given area, determine what they need to do the job right, and plan to obtain it. We have already initiated one such project through a cooperative agreement with the Puget Sound Council of Governments.

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Most previous government studies have examined the emergency response problem from the top down (i.e., beginning at the Federal level). They have made worthwhile suggestions for improving the capability at the Federal level, and have noted the need for integrated response networks utilizing capabilities of all levels of government. The Puget Sound project is examining the hazardous materials situation from the bottom up (i.e., beginning at the local level). The project is defining and will evaluate capabilities and deficiencies of the current accident response organizations in a four county area. It will develop a model and identify necessary actions for establishing a regional hazardous materials prevention and response plan that integrates resources and capabilities at local, State and Federal levels. We think this plan can serve as a model for other areas to follow.

Last year, RSPA's major activity in the area of emergency response was the preparation of an improved Emergency Action Guide. The editorial work has been completed and the Guide will be available this spring and delivered to fire and police departments for placement in all emergency response vehicles and for training. This initial distribution of about 300,000 copies is being funded with current FY '80 money. There are currently 900,000 copies of an earlier, more limited version in circulation. Therefore, it is necessary for us to plan for additional distribution of the new guide in FY '81. We also intend to begin development of an Emergency Response Guidebook, a more detailed how-to manual to supplement the Action Guide and provide local officials with comprehensive guidance for swift and precise response.

All in all, we plan the addition of over a million dollars for training (including preparation and distribution of educational materials) which will permit us to do the following: produce and distribute a radioactive material incident Responder's Guide; refine and update a variety of existing training

materials; provide training to State inspection personnel on hazardous materials and hazardous waste transportation; and distribute radioactive material training packages to the same personnel. We intend to approximately double the amount of resident instruction conducted at our Transportation Safety Institute at Oklahoma City (TSI), which we discussed with you at length this time last year.

It is obvious, that even the finest training and technical information will be of limited use in the field without reliable, real-time communications with a central source of definitive response information. This need was recognized by the DOT Hazardous Materials Transportation Task Force, which recommended the development of a National Hazardous Materials Response Center, building on the existing capability of the United States Coast Guard's emergency response center.

The necessary physical improvements and expansion of the Coast Guard Center are virtually complete, with new call directors installed and the existing consoles relocated. Under the Department's FY 1981 budget, the Response Center staff is to be increased by nine to 14. The workload has increased 250 percent over last year and 900 percent over 1976, making this increase in staff essential.

The installation by AT&T of its Hazardous Materials Emergency Response system (HMER) was started in November. This system will provide computerized high-speed data links between the Response Center, CHEMTREC, which is operated by the Chemical Manufacturers Association, and various chemical manufacturers. CHEMTREC is the repository of a very large inventory of data on chemicals, their properties, and techniques for handling emergencies which involve those chemicals, which information can be rapidly fed to emergency personnel in the field. We are investigating the addition of the Federal Emergency Management Agency (FEMA) to the HMER network to reduce the possibility of duplication of effort or confusion of responsibilities among responding agencies.

CHEMTREC should, in our judgment, continue to be relied upon as a link in the emergency response system served by the National Response Center. It would be a wasteful duplication for the Center to try to recreate the unique capability developed by CHEMTREC over the years with respect to the dangerous charcteristic of hundreds of different chemicals and compounds. In order to continue to utilize this valuable private sector resource, we must seek a minor amendment to the Hazardous Materials Transportation Act (HMTA) which is treated in section 2 of our authorization bill. Section 109(d)(2) of the HMTA requires the Secretary to establish and maintain a central reporting system and data center for emergency response purposes. The amendment would relieve the Secretary of the requirement that the Center be a wholly Federal activity and allow him to rely on activities operated and maintained by the private sector as a supplemental reporting and data system.

All in all, we believe we have developed a program which is fully responsive to the concerns of State and local officials who are on the front line when a hazardous materials transportation incident occurs in their jurisdictions. Through the improvements we plan in our training and emergency response activities, significant steps will be taken to provide these officials with the knowledge and skills which they need to minimize the threats to their citizens from hazardous materials transportation.

Although enhancement of our Emergency Response and Training activities accounts for the lion's share of the budget increase we seek for our hazardous materials program, we are also effecting improvements in our standards development and enforcement activities that are extremely important. These efforts are designed to bring new levels of rigor and precision to the regulatory process, consonant with new Administration policies of regulatory restraint and reform. Great emphasis is placed upon analysis of both the beneficial and disbeneficial impacts of prospective regulations, which imposes substantially increased requirements for quantitative information of both statistical and engineering nature.

To respond appropriately to this need, we are requesting a total of $486,000 for development, implementation, and utilization of our hazardous materials information system (HMIS). $218,000 of this amount is in the operations category and will be used to maintain our on-going incident report data base and to generate analytical reports and projections from the HMIS as the system has been developed up to the present.

While the progress made to date in the development of the HMIS has been significant, the process is far from complete. Thus, we are also requesting $250,000 to add new categories of data and to continue the integration of several diverse, and sometimes inconsistent, information systems into a simplified and comprehensive system which will become the fundamental analytical support for our most important activities. Among other things, it will be used to establish future program priorities which will permit the most effective and efficient use of our resources.

In broad terms, the objectives of the HMIS are to (1) determine needs for new regulations and changes in existing ones, (2) support administration of the regulatory program including compliance and enforcement, and (3) improve coordination between MTT, DOT modal administrations, other government agencies, and parties outside of the Federal government. On the rulemaking side, we will be using HMIS for such activities as forecasting changes in transportation patterns, identifying trends and performing risk analyses and assessments, and improving the ability to provide economic, environmental, and cost/benefit analyses of proposed regulations. We will also use the system to evaluate effectiveness and enforceability of those proposals.

Improved coordination through HMIS will be assisted by integrating data systems of the Federal Highway Administration, the Federal Railroad Administration, the National Response Center, as well as existing MTB reporting systems.

Among other characteristics, the system will permit quick retrieval of information relating to: commodity flow, indices of all regulations and exemptions; accident and incident data; technical information, enforcement and inspection activity; emergency response information from NRC and CHEMTREC; and budget and program plans.

In utilizing the funds which we are requesting for HMIS, we intend to maximize cost effectiveness by looking carefully at what information should be collected and stored, reducing administrative burdens and the amount of manual processing of information needed for MTB to perform its duties, and using the information made available to improve program planning and budgeting effectiveness, including resource allocation and program evaluation.

One element of our contemplated engineering initiative that I think will be of particular interest to this Committee is a program for which we have budgeted $389,000 to investigate cargo tank/tank car integrity. In brief, this program will involve the study of a variety of possible techniques to reduce the incidence and severity of the fire and explosion which can occur when certain liquids and gases are being moved under pressure. This is a follow-up effort to basic exploratory work being done for us at Southwest Research Institute under an FY 79 funded contract. Other planned expenditures for technical support of rulemaking, totaling $420,000, include such items as validation of standards for nonbulk packaging and containers, hazardous materials classification testing, and assessment of the safety of portable tanks. We are also planning the expenditure of $72,000 for "failure" testing of packaging and containers in support of our enforcement program. This will be a companion effort to the planned $130,000 continuation of our random testing of packaging and containers in service or being offered for sale by manufacturers.

Mr. Chairman, at this point I would like to make some observations on current and future needs in the area of routing of hazardous materials, including nuclear wastes. This is an area of considerable interest to the Congress, we understand.

For a long while, there has existed a regulation addressing the highway routing of hazardous materials (49 CFR 397.9(a)). It is very general in its terms, requiring avoidance of heavily populated areas, places where crowds are assembled, tunnels, narrow streets or alleys, unless this is impracticable. While we believe this requirement has been adequate for its originally intended purpose, we concluded, after considurable study, that it was not adequate when applied to radioactive materials. As a result, in January of this year, we issued a notice of proposed rulemaking looking to the establishment of specific routing regulations for the highway transportation of radioactive materials, including spent fuel. The proposal is based on the type of radioactive material shipped and the quantity--or activity--per shipment. As a result, it is applicable to a very wide range of commodities and materials and will apply to routings between thousands of pairs of points.

Last week we concluded a series of field hearings on this rulemaking from which we obtained extensive and useful citizen comment. We intend to have the final rule completed this fall, thus putting into place a framework which should resolve the patchwork of State and local requirements and lead to greater safety in the movement of radioactive materials over the highways.

There are other important things happening with respect to the surface transportation of nuclear wastes. On February 12, President Carter announced a new program for radioactive waste management which, to describe very broadly, sets up a process for the evaluation of potential repository sites, the identification of specific candidates, and the eventual establishment of several such repositories. We are involved in that process at the working level with the Department of Energy's Nuclear Waste Management Office and just this past weekend, I participated as DOT representative in a meeting of the State Planning Council on Radioactive Waste Management set up by the President to coordinate Federal, State, and local efforts in the program.

To further clarify the actions which must be taken under this program, the Office of Science and Technology Policy is soon to provide us, and other affected agencies, with specific guidance for carrying out our responsibilities. The Office of Technology Assessment is also examining the subject of nuclear waste management, including its transportation. When we have received and analyzed the inputs from these and other sources, we will be firmly launched into the process of planning for the safest possible future transportation of radioactive wastes.

We know that this committee is very interested in the movement of hazardous materials by air, and I would like to comment on a few of the recent developments in that area. Since we last testified before you, the reassignment of responsibility for hazardous materials enforcement within the Federal Aviation Administration has been completed. Whereas that program had been located in the Office of Flight Operations, which is principally oriented to aircraft inspections, it is now entrusted to the Office of Civil Aviation Security, whose expertise lies in the area of passenger and cargo security and has long and wide familiarity with airport operations. We think that this is a logical and sensible change which will benefit the program. I believe you are very familiar with the fine work that Mr. Lally has done in aviation security over the years.

On the rulemaking side, we have recently published several final rules of some significance. In February an omnibus package was adopted which treated a variety of practices and material handling matters in a fashion to satisfy the peculiar characteristics of air transportation. Last month, we issued a regulation making certain changes in the transportation of radioactive materials by air, for example, increasing the distance separating passengers from certain radioactive materials, predesignating stowage areas for radioactive materials, and changing labeling requirements.

And, only last week, we conducted field hearings in Denver on the subject of wheelchairs with nonspillable batteries. When we have evaluated this hearing in the light of the analyses already made, we will be in a position to improve air transportation safety while recognizing the legitimate travel and mobility needs of handicapped Americans.

Finally, let me address concerns which have been expressed about coordination among the Federal agencies which share statutory responsibility. Since our last appearance here, a revised memorandum of understanding has been executed between the Department of Transportation and the Nuclear Regulatory Commission. The MOU, which appeared in the Federal Register on July 2, 1979, delineates the responsibilities of the two agencies with respect to radioactive materials. In general, it describes DOT's responsibility for regulating the transportation of radioactive materials, including the packaging of low specific activity materials, and the NRC's responsibility for regulating safety in receipt, possession, use and transfer of by-products, source, and special nuclear materials, as well as its responsibilities for approval of packaging for high specific activity materials. Under the MOU, the NRC has agreed to assist DOT's enforcement efforts by inspecting shippers of fissile materials and of other radioactive materials in quantities exceeding Type A limits. We feel that this MOU has been drawn with appropriate strictness and clearly separates the respective responsibilities in a fashion which is clear to shippers, carriers, and the affected public.

We are making progress, as well, in clarifying our relationship with the Environmental Protection Agency, although not specifically in the area of radioactive materials. We are in the last stages of clearance of a MOU to establish the respective roles of the agencies in enforcing the requirements which will apply to the transporters of hazardous wastes. This is particularly timely, since we expect to issue our final rule governing the carriage of

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materials addressed by the Resource Conservation and Recovery Act in April as part of a consolidation of six interrelated rulemaking actions which will strengthen our overall regulatory scheme. EPA published its final rule relating to generators and disposers of hazardous wastes last week. The DOT action will augment and complete the regulatory aspects mandated by the statute. The uniformity of approach in the companion rulemakings will contribute significantly to the control of the generation and movement of hazardous wastes and the memorandum of understanding will aid in the effective enforcement of those rules.

This completes my prepared remarks. My colleagues and I will be pleased to respond to your questions.

Mr. ANDERSON. Please proceed.

TESTIMONY OF HOWARD J. DUGOFF, ADMINISTRATOR OF THE RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY LEE SANTMAN, DIRECTOR, MATERIALS TRANSPORTATION BUREAU; KEN PIERSON, DEPUTY DIRECTOR, BUREAU OF MOTOR CARRIER SAFETY, AND RICHARD LALLY, DIRECTOR, OFFICE OF CIVIL AVIATION SECURITY, FEDERAL AVIATION ADMINISTRATION

Mr. DUGOFF. Thank you, Mr. Chairman.

Permit me to introduce my colleagues, starting on my left. This is Mr. Kenneth Pierson, Deputy Director of the Bureau of Motor Safety; on my immediate right, Mr. Leon Santman, Director of the Materials Transportation Bureau, MTB; and on my far right, Mr. Richard Lally, Director of the Office of Civil Aviation Security of the Federal Aviation Administration.

We are pleased to appear here this morning to describe for you some major initiatives which the Department of Transportation is taking with respect to the safe transportation of hazardous materials and to discuss our request for authorizations to continue this program during the fiscal year 1981.

Now, with your permission, Mr. Chairman, I would like to present an abbreviated version of the statement, which we will submit for the record.

Mr. ANDERSON. No objection; so ordered.

Mr. DUGOFF. Let me begin with a few general remarks about the Department's perspective on hazardous materials transportation.

Secretary Goldschmidt and I both feel strongly that this area poses some of the most pressing problems now confronting the Department, and we are seeking to enhance our countermeasure program substantially. At a time when we are all conscious of the need for reduced public expenditures and the fight against inflation, this has necessitated hard and thoroughly considered choices on the part of the Department and the administration.

Within what we consider the leanest possible departmental budget for fiscal year 1981, we have decided to meet this compelling need for action even at the expense of reductions in other important programs.

In my judgment, Mr. Chairman, the deliberations that we have recently completed with respect to seeking authorizations and appropriations for this program were entirely consistent with the remarks in your opening statement concerning the proper context to assess safety programs in a time of great national need for fiscal restraint.

Quite frankly, Mr. Chairman, we have not done enough in the past in the area of hazardous material transportation, and there is a real need to catch up. The Secretary and I have reached these conclusions in large part because we have heard and understood the criticism of which the Department has been the target from public and congressional sources during the past several years.

No less than six congressional subcommittees have conducted oversight hearings and produced reports—critical reports—on one or another aspect of the Department's hazardous materials program.

The General Accounting Office, the Library of Congress, the National Transportation Safety Board, and the National Governors' Association have also conducted studies in this area.

As my predecessor reported to this subcommittee a year ago, the Department began to respond to this criticism by establishing a Hazardous Materials Transportation Task Force, which identified some major shortcomings of our program and recommended a comprehensive series of administrative actions to correct them.

I am pleased to be able to report today that all of these actions have already been successfully completed or are well underway at this time.

We must now support our administrative responses with significantly increased funding. Although we are proposing significant increases in virtually all program areas, the most substantial are in the related areas of training and emergency response.

Virtually all of the critical assessors of our program, including this subcommittee, have expressed strong concern over the need to improve the national capability to respond to hazardous material emergencies.

Our analysis of the nature of such emergencies leads us to conclude that the need cannot be met by assembling a vast national emergency squad. That would simply not be economical or practical.

We believe that the proper Federal role is to provide appropriate information and training assistance to the State and local officials best able to deal promptly and effectively with the jobs of control and cleanup at the emergency scene.

In the coming year, we plan to devote $450,000 to operational and R. & D. programs, directed toward developing new guidance information for State and local officials as to the safest and most effective techniques for identifying and dealing with hazardous materials emergencies. We have earmarked $500,000 for program development and demonstration projects whereby local governments or planning units will be helped to survey current physical

and institutional frameworks for emergency response in a given area, determine what they need to do the job right, and plan to obtain it.

All in all, we plan the addition of over $1 million for training, including preparation and distribution of educational materials which will permit us to do the following:

First, produce and distribute a radioactive material incident responder's guide; second, refine and update a variety of other training materials; third, provide direct training to State inspection personnel on hazardous materials and hazardous waste transportation; and fourth, distribute radioactive material training packages to the same inspection personnel.

We intend to approximately double the amount of resident instruction conducted at our Transportation Safety Institute at Oklahoma City, which we discussed with you at this time last year.

It is obvious that even the finest training and technical information will be of limited use in the field without reliable, real-time communications with a central source of definitive response information. This need was recognized by our hazardous material task force, which recommended the development of a national hazardous materials response center, building on the existing capability of the U.S. Coast Guard's emergency response center.

The necessary physical improvements and expansion of the Coast Guard center are now virtually complete. This system, when complete, will provide the computerized highspeed data links between that response center, CHEMTREC—as indicated by Chairman King—operated by the Chemical Manufacturers' Association, and various chemical manufacturers.

CHEMTREC is the repository of a very large inventory of data on chemicals, their properties and techniques for handling emergencies which involve those chemicals, which information can be rapidly fed to emergency personnel in the field.

CHEMTREC should, in our judgment, continue to be relied upon as a link in the emergency response system served by the national response center, and I am gratified that Chairman King endorsed this judgment in response to Congressman Fary's question earlier.

In our view, it would be a wasteful duplication for the DOT center to try to recreate the unique capability developed by CHEMTREC over the years with respect to the dangerous characteristics of hundreds of different chemicals and compounds.

In order to continue to utilize this valuable private sector resource, we must seek a minor amendment to the Hazardous Materials Transportation Act, which is treated in section 2 of our authorization bill. This amendment would relieve the Secretary of the requirement that the center be a wholly Federal activity and allow him to rely on activities operated and maintained by the private sector as a supplemental reporting and data system in the context I have described.

Although enhancement of our emergency response and training activities accounts for the lion's share of the roughly $5 million budget increase we seek for the hazardous materials program, we also intend to effect improvements in our standards development and enforcement activities that are extremely important, as well. These efforts are designed to bring new levels of rigor and preci-

sion to the regulatory process, consistent with new administration policies of regulatory restraint and reform.

Great emphasis is placed upon analysis of both the beneficial and the disbeneficial impacts of prospective regulations, which imposes substantially increased requirements for quantitative information of both statistical and engineering nature.

To respond to this need, we are requesting a total of $486,000 for development, implementation, and utilization of an expanded hazardous materials information system.

Mr. Chairman, I would like at this point to make some brief observations on current and future needs in the area of routing of hazardous materials, including nuclear waste, in light of the earlier remarks by Chairman King.

Indeed, this is an area of considerable interest to the Congress as I can judge readily by my mail. For a long while, there has existed a regulation addressing the highway routing of hazardous materials. It is very general in its terms, requiring avoidance of heavily populated areas, places where crowds are assembled, tunnels, narrow streets or alleys, unless this is impracticable.

While we believe this general set of requirements have been adequate for their originally intended purpose, we have concluded, after considerable study, that they are not adequate when applied to radioactive materials. As a consequence, in January of this year, we issued a notice of proposed rulemaking, looking to the establishment of specific routing regulations for the highway transportation of radioactive materials, including spent fuel.

Last week, we concluded a series of public hearings in the field on this rulemaking, at which we obtained extensive and useful citizen comment. We intend to have the final regulation completed this fall, thus putting into place a framework which should resolve the patchwork of State and local requirements and lead to greater safety in the movement of radioactive materials over the highways.

There are other important things happening with respect to the surface transportation of nuclear waste which I wish to bring to the attention of this committee. On February 12, President Carter announced a new program for radioactive waste management which sets up a process for the evaluation of potential waste repository sites, the identification of specific candidate sites, and the eventual establishment of appropriate repositories.

Clearly, the transportation implications of this effort are substantial. Consequently, we are involved in the process set up by the President at the working level with the Department of Energy's Nuclear Waste Management Office, and just this weekend, I participated as the Department of Transportation representative in a meeting of the State Planning Council on Radioactive Waste Management set up by the President to coordinate Federal, State, and local efforts in the program.

We know that this committee is particularly interested in the movement of hazardous materials by air, and I would like to comment briefly on a few of the recent developments in that area.

Since we last testified here, the reassignment of responsibility for hazardous materials enforcement within the Federal Aviation Administration has been completed. Whereas that program had been located in the Office of Flight Operations, which is principally

oriented to aircraft inspections, it is now entrusted to the Office of Civil Aviation Security, whose Director, Mr. Lally, is here accompanying me today, which office's expertise lies in the area of passenger and cargo security and which has long and wide familiarity with airport operations.

We think that this is a logical and sensible change which will benefit the enforcement program. I believe this subcommittee is very familiar with the fine work that Mr. Lally and his colleagues have done in aviation security over the years.

On the rulemaking side, we have recently published several final rules of significance. In February, an omnibus package was adopted which treated a variety of practices and material handling matters in a fashion to satisfy the particular characteristics of air transportation.

Last month, we issued a regulation making certain changes in the regulation concerning transportation of radioactive materials by air, for example, increasing the distance separating passengers from certain radioactive materials, predesignating stowage areas for radioactive materials, and imposing amended labeling requirements.

And only last week, we conducted public hearings in Denver on the subject of transportation of wheelchairs with nonspillable batteries in aircraft. When we have evaluated the results of this hearing in light of analyses we have already made, we believe we will be in a position to improve air transportation safety while recognizing the legitimate travel and mobility needs of handicapped Americans.

Finally, let me briefly address concerns which have been expressed about coordination among the various Federal agencies which share statutory responsibility in the hazardous materials field.

Since our last appearance here, a revised memorandum of understanding has been executed between DOT and the Nuclear Regulatory Commission which delineates the responsibilities of the two agencies with respect to regulation of radioactive materials. In general, it describes DOT's responsibility for regulating the transportation of radioactive materials, including the packaging of low specific activity materials, and the NRC's responsibility for regulating safety in receipt, possession, use, and transfer of byproducts, source, and special nuclear materials, as well as that agency's responsibilities for approval of packaging for high specific activity materials.

Under this memorandum of understanding, the NRC has agreed to assist DOT's enforcement efforts by inspecting shippers of fissile materials and other radioactive materials in high quantities.

We feel that this memorandum of understanding has been drawn with suitable strictness and appropriately separates the responsibilities of our two agencies in a fashion which is clear to shippers, carriers, and the affected public, and provides an effective framework for our respective activities.

We are making progress as well in clarifying our relationship with the Environmental Protection Agency. We are in the last stages of clearance of a memorandum of understanding with that agency to establish our respective roles in enforcing the require-

ments which will apply to the transporters of hazardous wastes. This is particularly timely, since we expect to issue a final rule governing the carriage of materials addressed by the Resource Conservation and Recovery Act this month, as part of a consolidation of six interrelated rulemaking actions which will strengthen and clarify our overall regulatory scheme.

EPA published a final rule relating to generators and disposers of hazardous wastes last week. The DOT action will augment and complete the regulatory aspects mandated by the Resource Conservation and Recovery Act. The uniformity of approach in the companion rulemakings, we believe, will contribute significantly to the control of the generation and movement of hazardous wastes and the memorandum of understanding under development will aid in the effective enforcement of those rules.

This completes my prepared remarks, Mr. Chairman. My colleagues and I will be pleased to answer any questions you may care to address.

Mr. ANDERSON. Mr. Dugoff, the Transportation Subcommittee of the House Committee on Interstate and Foreign Commerce has reported a bill which would provide funding for implementing the Hazardous Materials Transportation Act, of $9 million a year for fiscal years 1981, 1982, and 1983.

I would appreciate your comment on these funding levels.

Mr. DUGOFF. Well, Mr. Chairman, the authorization of $9 million for fiscal 1981 is consonant, generally, with our appropriation request of, I believe, $9.079 million for that year.

In respect to the subsequent 2-fiscal-year authorization, the Administration has not developed a position. I personally would feel more comfortable if there were provision for some expansion of the program activity, although we could not at this point specifically justify any greater levels.

At your request, we would attempt to develop some more specific backup for the record, but at this point, I do not believe I can be more specific.

Mr. ANDERSON. I would like to have you provide that for the record. If you could get it to us fairly soon, so we could have it in this report, we would appreciate it.

Mr. DUGOFF. We will do that very quickly, Mr. Chairman.

[The following was received for the record.]

The following table specifically describes our estimates for fiscal years 1981, 1982, and 1983.

HAZARDOUS MATERIALS PROGRAM

[In thousands of dollars]

	Fiscal year—		
	1981 appropriation request	1982 estimate	1983 estimate
Administration	2,782	2,820	2,850
Information and analysis	1,178	1,195	1,205
Enforcement support	449	455	460
Rulemaking support	1,307	1,325	1,340
Training	1,410	1,430	1,445
Emergency response	1,700	1,720	1,740

HAZARDOUS MATERIALS PROGRAM—Continued

(In thousands of dollars)

	Fiscal year—		
	1981 appropriation request	1982 estimate	1983 estimate
Federal, State, community assistance	253	255	260
Total	9,079	9,200	9,300

Mr. ANDERSON. How much staff do the DOT and the FAA devote to regulating the transportation of hazardous materials by air, and what are the responsibilities of the two agencies? Are the staffing levels adequate to carry out those responsibilities?

Mr. DUGOFF. Let me venture a very general remark, and then ask my two colleagues on my right, respectively, to talk about the issuance of regulations and their enforcement.

Generally, the Materials Transportation Bureau of RSPA is responsible for developing and issuing regulations—I will ask Mr. Santman to discuss the adequacy of resources for that purpose. The FAA is responsible for their enforcement, and I would like to ask Mr. Lally to discuss that aspect.

Mr. SANTMAN. With respect to the formulation of regulations, many of the regulations we formulate cut across all modes of transport—for example, things dealing with packaging, labeling, identification of hazardous materials. This is essential to supporting the shipment of such materials in the intermodal situation.

We have a number of regulatory areas, such as the two that Mr. Dugoff referred to in his testimony that are aviation peculiar, and to the extent that we need detailed information about the peculiarities of the aircraft environment, we seek that out within the FAA.

So generally, this is the way we approach rulemaking from the Materials Transportation Bureau perspective. There are counterparts to this with respect to each of the other modes.

To the extent that we work aviation problems in rulemaking, our current capabilities in that area, I believe, are matched to the task.

Mr. ANDERSON. Mr. Lally?

Mr. LALLY. Yes, sir, Mr. Chairman. As Mr. Dugoff and Mr. Santman indicated, the actual promulgation of rules is the responsibility of the Materials Transportation Bureau. However, FAA does participate with MTB in the development of those rules from the aviation standpoint, so that we are a participant in the process.

With respect to the enforcement of the regulations, FAA does enforce the hazardous materials regulations as they pertain to the air transportation of such goods, and we do enforce them, and we think that the staffing at the present time in FAA is adequate to meet that need.

Mr. ANDERSON. Will you describe the procedures that are followed when foreign air carriers are found to be in violation of the hazardous materials regulations? I understand that the State Department becomes involved. What actions have been taken against foreign air carriers to require compliance with our regulations?

Mr. LALLY. Yes, sir. When FAA finds a foreign air carrier or a foreign shipper in violation of the hazardous materials regulations, we initiate an investigation of that alleged violation, just as we would if it was a U.S. carrier. That investigation involves a notification to the carrier or to the shipper of the alleged violation, pointing out the circumstances and offering that carrier the opportunity to respond to the allegation.

The investigation is completed, and if the investigation develops evidence to prove, in our opinion, to establish a violation, normally, the first step in the process is for the FAA to bring this to the attention of the other government, requesting the other government to take corrective action. And that notification to the other government is via the State Department channels, on a government-to-government basis. But it is the FAA's findings and request for corrective action that are communicated to that government through State Department channels. And normally, governments are responsive to these findings, and corrective actions are taken.

Absent that corrective action satisfactory to FAA, FAA then could resort to the instititon of fines or penalties against the foreign air carrier that is operating to the United States.

I have some figures here with respect to foreign violations. My most current figures are 1978, which indicate that FAA filed violation actions with respect to 25 foreign shippers. That compares to 1977 figures, where violation actions were taken against nine foreign shippers and one foreign carrier.

Mr. ANDERSON. In your Administration's testimony last year, we discussed the fact that the average civil penalty collected for violation of hazardous materials regulations in aviation was $705. At that time, I expressed my concern that this penalty would be much too low to serve as a deterrant.

In response, Dr. Palmer testified that a contract had been issued for a study of civil penalties, and that the results were expected last October. Has the report been received yet, and what recommendations did it make?

Mr. DUGOFF. Mr. Chairman, I believe the report is in the hands of the Department's General Counsel, but has not yet been deemed complete and made publicly available. Let me ask Mr. Santman to elaborate, if he can.

Mr. SANTMAN. That is correct.

Mr. DUGOFF. That is precisely where it stands, according to Mr. Santman. I wonder if Mr. Lally might be able to indicate the relationship between proceedings at this committee's hearings last year, the conduct of that study, and the recent proposal that civil penalty limits be increased. I suspect there is a relationship.

Mr. ANDERSON. Mr. Lally?

Mr. LALLY. I can comment in general terms on that, Mr. Chairman. I guess when it comes to civil penalties, the fines that are levied and collected, in 1978, FAA recommended civil penalties or fines in the amount of $364,000-plus, and in 1979, we recommended civil penalties in the amount of $436,000-plus. In terms of actual fines collected—and you must realize that it does take some time to achieve the actual collections—in 1978, fines were collected totalling $97,000-plus, and in 1979, $100,000-plus.

So if, looking at those figures, it adds up that in 1978, the average was somewhere less than $1,000—approximately $700 or so, I would estimate—and in 1979, the average civil penalty was somewhat over $1,000.

Mr. ANDERSON. I just want to reiterate that I felt that the average of $705 was too low at that time, and we were told that there was going to be a study and a report back in October, and we would like to have you speed it up if you can.

Mr. DUGOFF. Mr. Chairman, I would like to express my apologies, and promise to do anything I can to expedite the delivery of that report.

Mr. ANDERSON. Last year, I also expressed concern that under current procedures, a shipper with noncomplying hazardous materials can go from air carrier to carrier until he finds one willing to take it. There is no requirement that any of the carriers notify the FAA that the noncomplying shipment has been offered to him.

Dr. Palmer testified that a rulemaking proceeding had been instituted to consider the question of whether an air carrier should be required to notify the FAA when it was presented with a noncomplying shipment.

What further action has been taken in this rulemaking proceeding?

Mr. SANTMAN. Indeed, a notice of proposed rulemaking was issued, and we are about to come to closure on a final rule on the matter of the action to be taken by an air carrier who receives from a shipper what proves later to be an improperly prepared hazardous material.

And the way the notice of proposed rulemaking that we are working on was issued, it spoke in terms of requiring the carrier, when they make that discovery, indeed, to make an immediate call to the FAA. It does not as proposed involve the air carrier seizing or apprehending and holding improper shipments if they recognize them as such right from the beginning. They will reject acceptance of those packages.

Mr. ANDERSON. Do you think the Airline Deregulation Act has had any effect on the transportation of hazardous materials? Specifically, do you think that commuter airlines can do as well as the certificated carriers in policing themselves?

Mr. LALLY. I think that at the present time, Mr. Chairman, we do not have any hard evidence to indicate that deregulation has had any significant impact in the transportation of hazardous materials. However, that is a possibility as commuter airlines pick up more of the previously certificated carriers routes, and we will watch that very closely.

We do require the carriers, both the commuters and the certificated carriers, to have training programs for the handling and transportation of hazardous materials by air. Those training programs are approved by the FAA, and they are monitored during the FAA inspection processes. So that if all the carriers are doing their job with respect to the training and the competence of their personnel, both the commuters and the air carriers, we would envision no significant degredation in terms of safety growing out of the transportation of hazardous materials.

Mr. ANDERSON. You seem to be answering one of my further questions, so let me get it in the proper context. Do you believe that the individuals who are responsible for inspecting hazardous air cargoes are adequately trained, and can you briefly describe the training of government and industry personnel responsible for hazardous materials inspections, and under whose auspices is the training carried out? I know you just touched on it there.

Mr. LALLY. Yes, sir. First, when it comes to Government personnel in terms of FAA inspection personnel, they are trained. The formal training is conducted at the Transportation Safety Institute, which is run by Mr. Dugoff's organization at Oklahoma City. That is an 8-day course, and it has been planned in the past and is still planned that there would be recurrent training, updated, more advanced training on a biennial or triennial basis, so that the FAA inspection personnel do go through that formal training process. In addition to that, they do receive on-the-job training, and currently, we are proposing a standard that once an inspector completes his training, he must maintain his currency by conducting five hazardous materials inspections every 20 or so working days.

What we have found is that the regulations are complex to a degree, and that inspector personnel must do the inspections on a continuing basis in order to maintain their currency and proficiency in this function.

I was going to go on to the air carrier personnel. They are required to be trained, and FAA has published an advisory circular in 1979, which prescribes the type of training that FAA will require and will accept for approval. This is in the hands of the carrier, and that is what is used as the guidance to the carriers on what is acceptable to FAA and what FAA will approve. Each one is approved, and each one is monitored, and this is periodically checked during the inspection process.

So I think we have the framework for a good, solid training, both of Government personnel and industry personnel. We have one additional project in mind, and that is we would like to extend this training obligation to air freight forwarders, who also handle a lot of hazardous materials. Air freight forwarders are not currently required to have training programs, so it is our proposal from an aviation standpoint to either recommend a change in the MTB regulations to achieve that goal, or in the alternative, FAA can on its own regulatory authority require by regulation those training programs by indirect air carriers or air freight forwarders.

Mr. ANDERSON. Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

Mr. Dugoff, the Senate trucking deregulation bill, S. 2245, calls for $5 million in insurance coverage for carriers of hazardous materials. What is your agency's view on this requirement?

Mr. DUGOFF. I will defer to Mr. Santman.

Mr. SANTMAN. Well, we have recognized that the levels imposed through the ICC at the current time, when matched up with some of the very risky hazardous materials, do not make a very good match.

We have generally recognized and supported the need for insurance coverage, particularly for the bulk carriage of flammable liquids, some of the high-consequence hazardous materials.

Whether $5 million is the right figure or not, we have not really settled on that, but we are basically supportive of the kind of insurance requirements that you talked about.

I believe also that Mr. Pierson, who is much more familiar with the various trucking safety bills as they apply across the board for trucking, may have some views on this also.

Mr. PIERSON. Yes, sir. Our concern is locking a dollar figure in the statute, and it may well be that insurance requirements for different types of operations would be more appropriate, and those appropriate levels could be established through the rulemaking process where all persons have an opportunity to come in and give evidence as to the appropriate level by class of carriage.

But Mr. Santman is quite right that the existing limitations are inadequate, and we have also examined the limitations in the 50 States, and they are even more inadequate than the Interstate Commerce Commission's limitations for the for-hire sector. And there are no Federal requirements on the private sector.

Mr. STANGELAND. Have the States assumed an increased role in monitoring the transportation of hazardous materials?

Mr. DUGOFF. Yes, they have, and that is a situation we are working very hard to continue to foster. Our conception is that the Federal Government really cannot realistically expect to mount a sufficient enforcement effort, notwithstanding the excellent performance of Mr. Pierson's colleagues in the BMCS. It is just too big a job for a Federal field force to handle.

The scheme that we envision as appropriate is one in which the respective State governments, by enacting for intrastate commerce the same regulations as apply through the Hazardous Materials Transportation Act for interstate commerce, would be in a position to enforce both sets of regulations, and the augmented training effort which we are seeking to undertake next year is directed toward, if you will, sweetening the pie for the States, to encourage them to undertake this responsibility and giving them the assistance that we can provide, both in the way of formal training and through instructional materials.

So we are very supportive of that concept.

Mr. STANGELAND. How many States have adopted the Department's hazardous materials regulations, and to what extent do these States contribute to the total enforcement effort?

Mr. DUGOFF. I believe 34 States at this point have adopted them all or in part, but let me ask Mr. Santman to elaborate on that.

Mr. SANTMAN. Yes, roughly 34 or 35 States have them in varying form. They are not all the same. There are some States where what they have adopted could be tuned up a little bit. But roughly 34 or 35 States are to one degree or another involved in enforcing Federal standards.

Mr. DUGOFF. And the extent to which they contribute to the effectiveness of enforcement is enormous. I do not have any figures off the top of my head on the number of violations, for example, that are detected by State as opposed to Federal inspectors—perhaps Mr. Santman can help me out on this—but I believe it will demonstrate that the State presence is a tremendously significant factor.

Mr. SANTMAN. I am not sure that I can bail you out with any numbers, Howard, but this again is a very important thing in the highway mode in particular. This is where the Federal Government needs the sharing and the assistance from the States. And again, it ties back into the broader matter of motor carrier safety as reflected in the various motor carrier safety bills that Mr. Pierson's organization is concerned with in the broad motor carrier safety sense.

Mr. STANGELAND. No other questions, Mr. Chairman.

Mr. ANDERSON. Mr. Fary.

Mr. FARY. Thank you, Mr. Chairman.

Mr. Dugoff, during the last session of this Congress, both this committee and the House Commerce Committee reported the bill, H.R. 3502, requiring the Department to undertake various studies.

Could you please comment in detail on whether the Department has undertaken any of these studies, and the Department's position on each element of these studies?

Mr. DUGOFF. Well, that is a very complex question. By your leave and that of the Chairman, I would like to comment in detail for the record, and generally state to you now that we have undertaken analyses or studies corresponding to virtually all of the issues stipulated in that bill, and to a greater or lesser degree have indeed completed analyses consonant with the intent of that bill.

But by your leave, I would like to provide the detail for the record.

Mr. ANDERSON. No objection; so ordered.

[The following was received for the record.]

This information has already been provided to the Committee and Staff in a detailed document entitled, "Materials Transportation Bureau Program Actions Concerning Hazardous Materials Transportation Study Requirements in Section 2 of H.R. 3502.

Mr. FARY. Thank you very much.

Mr. ANDERSON. I do have two additional questions, and I am going to ask you to answer them for the record, as well.

The data we have been provided shows that in 1979, there were 284 accidents in the air transportation of hazardous materials. This is up from 91 accidents in 1976. What has led to this increase, and what is the nature of most of these accidents? I would like to have you provide that for the record.

[The following was received for the record.]

During 1978, 228, and during 1979, 295, hazardous materials incident reports (DOT F 5800.1) for air operations were submitted in accordance with 49 CFR 175.43(c). Though the numbers suggest an increase in the number of incidents, we do not actually attribute this to a real increase in the number of hazardous materials incidents in the aviation mode. Instead, we believe this reflects an historical trend of better compliance with the regulatory reporting requirements brought on by increasing awareness on the part of shippers and others of the need to report such incidents. Enclosed is a list of the reported incidents which identifies by code numbers the failures that were encountered.

CARRIER	INCIDENT LOCATION		COMMODITY	CLASS	DATE	CONTAINR	FAILURES	INJ	DAMAGES	R	REPORT NO
FEDERAL EXPRESS CORP	BOSTON	MA	SULFURIC ACID	COR	78/01/05	BOTL PLS	14	0	0	0	5 8010426
FEDERAL EXPRESS CORP	BALTIMORE	MD	CEMENT LIQ NOS	F. L.	78/01/07	17E/17M	2	0	0	0	5 8010837
NORTHWEST AIRLINES INC	ST PAUL	MN	N.A.M. N.O.S.	B.A.M.	78/01/10	7A	2	0	0	0	1 8010838
FEDERAL EXPRESS CORP	MEMPHIS	TN	ORGANIC PHOSPHATE P	POIS B	78/01/17	CAN MTL	1	0	0	0	5 8020594
FEDERAL EXPRESS CORP	MEMPHIS	TN	N.A.M. N.O.S.	N.A.M.	78/01/17	7A	17	0	0	0	1 8020076
FEDERAL EXPRESS CORP	MEMPHIS	TN	STYRENE MONOMER INH	F. L.	78/01/19		0	0	0	0	1 8020077
FLYING TIGER LINE INC	LOS ANGELES	CA	BUTYL MERCAPTAN	F. L.	78/01/22	BOTL	14	0	0	0	5 802000?
UNITED AIR LINES INC	SAN FRANCISCO	CA	AMMON HYDROXIDE <40	COR	78/01/24	JAR GLS	1	0	0	0	5 8051036
FEDERAL EXPRESS CORP	ATLANTA	GA	PAINT ENAM LAQ STAN	F. L.	78/01/24	37A	0	0	0	0	5 8030087
OZARK AIRLINES INC	FLUSHING	NY	COMMODITY UNKNOWN		78/01/29	TANK TRL	0	0	0	0	5 8030712
OZARK AIRLINES INC	SIOUX CITY	IA	SODIUM AZIDE	POIS B	78/01/30	BLANK	10	0	0	0	5 8030713
CONTINENTAL AIRLINES	MIAMI	FL	GASOLINE	F. L.	78/02/01	30X FBR	11	0	0	0	5 8020352
FEDERAL EXPRESS CORP	ST LOUIS	MO	CHLOROFORM	ORM-A	78/02/02	BOTL GLS	1	0	0	0	5 8030088
FEDERAL EXPRESS CORP	MEMPHIS	TN	METHYL ALCOHOL	F. L.	78/02/03	CARBOY G	1	0	0	0	5 8030089
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/02/04	17E	10	0	0	0	5 8030090
FEDERAL EXPRESS CORP	MEMPHIS	TN	CHLOROFORM	ORM-A	78/02/07	CARBOY G	1	0	0	0	5 8030091
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/02/10	CAN MTL	0	0	0	0	5 8030092
FEDERAL EXPRESS CORP	PHOENIX	AZ	FLAM SOLIDS N.O.S.	F. S.	78/02/11	30X FBR	10	0	0	0	5 8030001
EASTERN AIR LINES	HOUSTON	TX	N.A.M. SPEC. PKGM	N.A.M.	78/02/15	CONT PLS	0	0	0	0	1 8020077
FEDERAL EXPRESS CORP	PHILADELPHIA	PA	CORR LIQ N.O.S.	COR	78/02/15	CAN MTL	11	0	0	0	5 8020714
FEDERAL EXPRESS CORP	MEMPHIS	TN	PETROLEUM NAPHTHA	F. L.	78/02/16	CAN MTL	0	20	0	0	5 8030002
EASTERN AIR LINES	ATLANTA	GA	MERCURY METALLIC	ORM-B	78/02/20	CONT GLS	1	0	0	160	5 8020078
FEDERAL EXPRESS CORP	PHILADELPHIA	PA	DIACETYL	F. L.	78/02/21	CAN	0	14	0	0	5 8030093
PROFIT BY AIR INC	LOS ANGELES	CA	ALCOHOL N.O.S.	F. L.	78/02/21	BOTL GLS	1	0	0	200	5 8030094
SUMMIT AIRLINES INC	PHILADELPHIA	PA	FLAM LIQUIDS N.O.S.	F. L.	78/02/21	CAN	0	14	0	0	5 8030003
ROMANOW AVIATION INC	GRAND JCT	CO	CORR LIQ N.O.S.	COR	78/02/24	JAR GLS	0	0	1	500	5 8030326
FEDERAL EXPRESS CORP	ALLENTOWN	PA	FLAM LIQUIDS N.O.S.	F. L.	78/03/01	CAN MTL	10	0	0	0	5 8030531
FEDERAL EXPRESS CORP	CORAL SPRINGS	FL	PAINT ENAM LAQ STAN	F. L.	78/03/02	DRUM MTL	11	0	0	0	5 8030530
AIRLIFT INTERNATIONAL INC	CHICAGO	IL	ORM A NOS	ORM-A	78/03/02	BAG PPR	14	0	1	0	5 8031239
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/03	37A	11	0	0	0	5 8030532
FEDERAL EXPRESS CORP	MEMPHIS	TN	ALCOHOL N.O.S.	F. L.	78/03/04	17E	11	0	0	0	5 8030734
NORTHWEST AIRLINES INC	ST PAUL	MN	N.A.M. N.O.S.	B.A.M.	78/03/04	BOTL GLS	1	0	0	0	1 8030533
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/04	17E	10	0	0	0	5 8031036
DELTA AIR LINES INC	NEW YORK	NY	N.A.M. N.O.S.	B.A.M.	78/03/05	7A	0	0	0	0	1 8030711
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMPR GASES NOS NFG	NONF.G.	78/03/08	CYL MTL	1	0	0	0	5 8030949
FEDERAL EXPRESS CORP	HOUSTON	TX	ACETIC ACID AQU SLN	COR	78/03/09	BLANK	14	0	1	0	5 8030953
FLYING TIGER LINE INC	ANCHORAGE	AK	N.A.M. N.O.S.	B.A.M.	78/03/09	CAN MTL	0	0	0	0	5 8140004
FEDERAL EXPRESS CORP	ODENTON	MD	INK	F. L.	78/03/10	CAN MTL	1	0	0	30	9 8030950
WESTERN AIRLINES	MINNEAPOLIS	MN	GASOLINE	F. L.	78/03/11	BOX WOOD	11	0	0	1	5 8071024
FEDERAL EXPRESS CORP	MILWAUKEE	WI	POISONOUS SOL NOS B	POIS B	78/03/14	LIAB PLS	13	0	7	3000	5 8031146
AMERICAN AIRLINES INC	FORT WORTH	TX	CRUDE OIL PETROLEUM	F. L.	78/03/15	CAN MTL	11	0	0	0	5 8031240
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQ NOS	F. L.	78/03/15	17E	1	0	0	0	5 8030951
FEDERAL EXPRESS CORP	MEMPHIS	TN	PHOSPHORIC ACID	COR	78/03/15	34	0	0	0	0	5 8030952
FEDERAL EXPRESS CORP	HARAHAN	LA	SODIUM HYDROXIDE LQ	COR	78/03/15	BOTL PLS	17	0	1	10	5 8030944
FEDERAL EXPRESS CORP	ROCHESTER	NY	CONSUMER COMMODITY	ORM-D	78/03/16	BOTL PLS	11	0	0	0	5 8031055
FEDERAL EXPRESS CORP	DENVER	CO	ORM D NOS	ORM-D	78/03/16	JUG PLS	11	0	0	400	5 8030947
FEDERAL EXPRESS CORP	ROMULUS	MI	PAINT ENAM LAQ STAN	F. L.	78/03/16	CAN MTL	20	0	0	0	5 8040001
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP PAINT RELATED	F. L.	78/03/17	CAN MTL	1	0	0	0	5 8030945
FEDERAL EXPRESS CORP	MEMPHIS	TN	ORM A NOS	ORM-A	78/03/17	17E	10	0	0	0	5 8030948

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FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/10	CAN MTL	11	0	0	0	S 0031170
FEDERAL EXPRESS CORP	WAUWATOSA	WI	MERCURIC OXIDE SD	POIS B	78/03/21	LINR PLS	21	0	0	100	S 0031241
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORP PAINT REMOVE F	F. L.	78/03/22	37C	8	0	0	15	S 0031243
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/22	CAN MTL	0	11	0	0	S 0031168
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORP PAINT REMOVE F	F. L.	78/03/22	CAN MTL	3	20	0	0	S 0031169
FEDERAL EXPRESS CORP	MEMPHIS	TN	ORGANIC PHOSPHATEND	POIS B	78/03/23	JAN GLS	17	0	0	0	S 0031167
DELTA AIR LINES INC	SAN JUAN	PR	PAINT ENAM LAQ STAN	F. L.	78/03/23	CAN MTL	1	0	0	0	S 0031166
FEDERAL EXPRESS CORP	MEMPHIS	TN	CLMENT LIQ NOS	F. L.	78/03/25	CAN	1	0	0	100	S 0031244
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	78/03/25	CAN	11	24	0	0	S 0040097
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/28	CAN MTL	11	0	0	0	S 0040083
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/28	CAN MTL	1	0	0	0	S 0031242
BRANIFF INTERNATIONAL AIRWAYS	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/03/29	CAN MTL	1	0	0	0	S 0040082
BRITISH OVERSEAS AIRWAYS CORP	DALLAS	TX	CORP CLEANING LIQ C	COR	78/03/30	37C	1	0	0	0	S 0040085
FEDERAL EXPRESS CORP	LONDON	GR ZZ	MAGNESIUM MET PWDRD	F. W.	78/03/30	CONT PLS	3	20	0	0	S 0040313
FEDERAL EXPRESS CORP	HAWAII	CO	RESIN SOLUTION	F. L.	78/04/02		0	0	0	0	0050082
FEDERAL EXPRESS CORP	GREENSBORO	NC	GASOLINE	F. L.	78/04/04	CAN MTL	1	0	0	0	S 0040096
PAN AMERICAN WORLD AIRWAYS INC	NEW YORK	NY	RESIN SOLUTION	F. L.	78/04/05	CAN MTL	10	0	0	0	S 0040729
FEDERAL EXPRESS CORP	NORFOLK	VA	ORGANIC PHOSPHATEND	POIS B	78/04/07	DRUM MTL	13	0	0	0	S 0040899
PIEDMONT AIRLINE	NEWARK	NJ	ORM A NOS	ORM-A	78/04/10	12B	13	0	0	0	S 0040898
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/04/12	JUG PLS	10	0	0	0	S 0041049
FEDERAL EXPRESS CORP	MEMPHIS	TN	POISONOUS SOL, NOS B	POIS B	78/04/13	CAN MTL	11	0	0	0	S 0041046
FEDERAL EXPRESS CORP	MEMPHIS	TN	ALCOHOL N.O.S.	F. L.	78/04/13	BAG PLS	13	0	10	0	S 0041359
FEDERAL EXPRESS CORP	MEMPHIS	TN	POISONOUS LIQ NOS B	POIS B	78/04/15	CARBOY G	10	0	0	0	S 0041048
DELTA AIR LINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/04/15	17E	10	0	0	0	S 0040504
FEDERAL EXPRESS CORP	KNOXVILLE	TN	NITRIC ACID	COR	78/04/15	CAN MTL	8	0	0	0	S 0041047
PAN AMERICAN WORLD AIRWAYS INC	HARLEM	MI	FORMIC ACID SOLUT	COR	78/04/17	BOTL PLS	11	0	0	150	S 0050001
FEDERAL EXPRESS CORP	LOS ANGELES	CA	PAINT ENAM LAQ STAN	F. L.	78/04/18	BOX FBR	10	0	0	0	S 0050002
FEDERAL EXPRESS CORP	MEMPHIS	TN	METHYL ALCOHOL	F. L.	78/04/19		0	0	0	0	0050876
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/04/19		0	0	0	0	1 0050003
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/04/20		0	0	0	0	0050081
FEDERAL EXPRESS CORP	PITTSBURGH	PA	PAINT ENAM LAQ STAN	F. L.	78/04/22		0	0	0	0	0050202
FEDERAL EXPRESS CORP	MEMPHIS	TN	ETHYL ACETATE	F. L.	78/04/22		0	0	0	0	0050080
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/04/26		0	0	0	0	0050079
UNITED AIR LINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/05/02		0	0	0	0	0050875
FEDERAL EXPRESS CORP	WASHINGTON	DC	ELECTR BATT FL	COR	78/05/03		0	0	0	0	0051186
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/05/03		0	0	0	10	0050449
FEDERAL EXPRESS CORP	ST LOUIS	MO	PICRIC ACID >10 H2O	F. S.	78/05/03		0	0	0	0	0050523
FEDERAL EXPRESS CORP	MEMPHIS	TN	POISONOUS LIQ NOS B	POIS B	78/05/04	BOTL GLS	11	0	0	0	S 0050522
EMERY AIR FREIGHT CORP	ST LOUIS	MO	ACETIC ACID GLACIAL	COR	78/05/04	BOX FBR	1	0	0	0	S 0050448
FEDERAL EXPRESS CORP	S SN FRANCSCO	CA	COMPR GASES NOS FG	P. G.	78/05/04	BOTL GLS	11	0	0	0	S 0050522
FEDERAL EXPRESS CORP	MEMPHIS	TN	ORGANIC PHOSPHATEND	POIS B	78/05/05	CAN MTL	11	0	0	0	S 0050337
AIR EXPRESS INTERNATIONAL CORP	MEMPHIS	TN	SODIUM HYDROXIDE LQ	COR	78/05/11	CAN MTL	11	0	0	0	S 0060001
FEDERAL EXPRESS CORP	DES PLAINES	IL	POISONOUS SOL NOS B	POIS B	78/05/16	BOTL PLS	10	0	0	0	S 0051027
NORTHWEST AIRLINES INC	CHICAGO RIDGE	IL	ORM B NOS	ORM-B	78/05/16	DRUM FBR	10	0	1	0	S 0051205
FEDERAL EXPRESS CORP	CHICAGO	IL	R.A.M. N.O.S.	R.A.M.	78/05/18	LINR PLS	17	0	0	0	S 0051413
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/05/19	TYPE A	17	0	0	0	1 0060003
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/05/19		0	0	0	0	0060002
ALASKA AIRLINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/05/24		0	0	0	0	0060322
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					78/06/01	CAN MTL	11	0	0	0	S 0060738

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HUGHES AIRWEST	SANTA BARBARA CA	ORM C N.O.S.	ORM-C	78/06/01		0 0	0	0		8060323
FEDERAL EXPRESS CORP	ELK GROVE VLG IL	ETIOLOGIC AGENTSNOS	ETIO.A.	78/06/02	CONT GLS	3 20	1	0	5	8060739
FEDERAL EXPRESS CORP	MEMPHIS TN	RESIN SOLUTION	F. L.	78/06/07		0 0	0	0		8060742
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/06/08		0 0	0	0		8060740
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/06/08		0 0	0	0		8060741
HUGHES AIRWEST	LAS VEGAS NV	PAINT ENAM LAQ STAN	F. L.	78/06/11	CAN MTL	11 0	0	0	5	8070005
PAN AMERICAN WORLD AIRWAYS INC	SEATTLE WA	PAINT ENAM LAQ STAN	F. L.	78/06/14	CAN MTL	1 0	0	0	5	8070006
BRANIFF INTERNATIONAL AIRWAYS	NEW YORK NY	FLAM LIQUIDS N.O.S.	F. L.	78/06/15	CAN MTL	11 0	0	0	5	8061033
DELTA AIR LINES INC	CHARLESTON SC	TAR LIQUID CL	COM0 L	78/06/15	CAN MTL	3 0	0	0	5	8061792
PROFIT BY AIR INC	CHICAGO IL	ACETIC ACID GLACIAL	COR	78/06/19	BOTL GLS	1 0	0	170	5	8061035
BRANIFF INTERNATIONAL AIRWAYS	DALLAS TX	XYLENE (XYLOL)	F. L.	78/06/21	JUG GLS	14 0	4	130	5	8061781
ALLEGHENY AIRLINES INC	PITTSBURGH PA	COMP PAINT REMOVE C	COR	78/06/22	PAIL PLS	11 0	0	0	5	8070002
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/06/22	17H	1 0	0	0	5	8061783
FEDERAL EXPRESS CORP	MEMPHIS TN	CEMENT LIQ NOS	F. L.	78/06/24	CAN MTL	8 0	0	0	5	8070004
BRITISH OVERSEAS AIRWAYS CORP	LONDON UK	ZZ BATTS STORAGE WET	COR	78/06/27	BOX FBR	11 0	0	0	5	8080649
DELTA AIR LINES INC	CINCINNATI OH	OLEUM	COR	78/07/04	BOTL GLS	14 0	1	0	5	8070003
AMERICAN AIRLINES INC	OKLAHOMA CITY OK	CYCLOHEXANONE PEROX	ORG PER	78/07/06	PAIL MTL	11 0	0	0	5	8070404
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/07/08	CAN MTL	1 0	0	0	5	8070405
UNITED AIR LINES INC	HONOLULU HI	GASOLINE	F. L.	78/07/16	TANK PRT	11 0	0	0	5	8080284
FEDERAL EXPRESS CORP	MEMPHIS TN	FLAM LIQUIDS N.O.S.	F. L.	78/07/19	CAN MTL	11 0	0	0	5	8080484
FEDERAL EXPRESS CORP	MEMPHIS TN	FLAM LIQUIDS N.O.S.	F. L.	78/07/19	CAN MTL	11 0	0	0	5	8080488
FEDERAL EXPRESS CORP	MEMPHIS TN	COMPR GASES NOS NFG	NONF.G.	78/07/20	3AA	3 0	0	0	5	8080282
PROFIT BY AIR INC	DES PLAINES IL	ETIOLOGIC AGENTSNOS	ETIO.A.	78/07/20	CONT GLS	17 0	0	52	5	8080283
UNITED AIR LINES INC	CHICAGO IL	GASOLINE	F. L.	78/07/21	LUGGAGE	11 0	0	0	5	8071330
AMERICAN AIRLINES INC	CHICAGO IL	ALCOHOL N.O.S.	F. L.	78/07/25	BOTL PLS	3 0	0	0	5	8080648
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/07/25	37C	2 0	0	125	5	8071329
DELTA AIR LINES INC	CINCINNATI OH	COMPR GASES NOS NFG	NONF.G.	78/07/28		0 0	0	0		8080650
FEDERAL EXPRESS CORP	HUNTSVILLE AL	PAINT ENAM LAQ STAN	F. L.	78/08/01	37C	11 0	0	0	5	8080929
FEDERAL EXPRESS CORP	HUNTSVILLE AL	RESIN SOLUTION	F. L.	78/08/02	CAN MTL	11 0	0	0	5	8080485
FEDERAL EXPRESS CORP	MEMPHIS TN	GASOLINE	F. L.	78/08/03	CAN MTL	11 0	0	0	5	8080483
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/08/04	37C	1 0	0	0	5	8080487
FEDERAL EXPRESS CORP	MEMPHIS TN	INK	F. L.	78/08/04	CAN MTL	1 0	0	0	5	8080930
FEDERAL EXPRESS CORP	ROCHESTER NY	PAINT ENAM LAQ STAN	F. L.	78/08/04	37C	14 0	0	0	5	8080001
FEDERAL EXPRESS CORP	MEMPHIS TN	CHLOROFORM	ORM-A	78/08/04	BOTL PLS	1 0	0	0	5	8080486
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/08/05	37C	1 0	0	0	5	8080931
WIEN AIR ALASKA INC	ANCHORAGE AK	ELECTR BATT FL	COR	78/08/08	LINR PLS	1 0	0	50	5	8081401
FEDERAL EXPRESS CORP	BOSTON MA	FLAM LIQUIDS N.O.S.	F. L.	78/08/10	BOTL PLS	2 0	0	0	5	8080932
EASTERN AIR LINES	SAN ANTONIO TX	CORR LIQ N.O.S.	COR	78/08/11	CONT PLS	11 0	0	0	5	8080928
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/08/12	CAN MTL	10 0	0	0	5	8080933
FEDERAL EXPRESS CORP	MEMPHIS TN	CORR LIQ N.O.S.	COR	78/08/17	BOTL GLS	1 0	0	0	5	8090052
PAN AMERICAN WORLD AIRWAYS INC	BERLIN BZ	ZZ BATTS STORAGE WET	COR	78/08/18	BOX FBR	17 0	0	200	5	8090544
FEDERAL EXPRESS CORP	MEMPHIS TN	CORR LIQ N.O.S.	COR	78/08/24	BOTL PLS	11 0	0	0	5	8090484
SUMMIT AIRLINES INC	PHILADELPHIA PA	RESIN SOLUTION	F. L.	78/08/25	DRUM PLS	1 0	0	0	5	8090742
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/08/25	17H	8 11	0	0	5	8090492
EASTERN AIR LINES	DALLAS TX	METHYL CHLORIDE MET	F. G.	78/08/25	CAN MTL	9 0	2	100	5	8090185
FEDERAL EXPRESS CORP	MEMPHIS TN	PAINT ENAM LAQ STAN	F. L.	78/08/25	17E	1 0	0	0	5	8090[illegible]
BRANIFF INTERNATIONAL AIRWAYS	MIAMI FL	ORM A NOS	ORM-A	78/08/31	DRUM FBR	7 0	0	0	5	8090426
AIRLIFT INTERNATIONAL INC	JAMAICA NY	ACID LIQUID N.O.S.	COR	78/09/01	CAN MTL	5 20	0	0	5	8110080
AIRLIFT INTERNATIONAL INC	JAMAICA NY	FLAM LIQUIDS N.O.S.	F. L.	78/09/01	BOTL GLS	14 0	0	0	5	8090420

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AIRLIFT INTERNATIONAL INC	JAMAICA	NY	ALCOHOL N.O.S.	F. L.	78/09/01	CAN MTL	1	0	0	0	1 8090421
HAWAIIAN AIRLINES INC	KAHULUI MAUI	HI	COMP PAINT REMOVE F	F. L.	78/09/07	BLANK	11	0	0	0	5 8091491
FEDERAL EXPRESS CORP	WINDSOR LOCKS	CT	POISONOUS LIQ NOS D	POIS D	78/09/12	BOTL PLS	1	0	2	60	5 8090937
FLYING TIGER LINE INC	MIAMI	FL	BATTS STORAGE WET	COR	78/09/12	BOX MTL	9	0	0	0	5 8090935
FEDERAL EXPRESS CORP	JAMAICA	NY	FLAM LIQUIDS N.O.S.	F. L.	78/09/14	BOTL GLS	8	0	2	0	5 8100065
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/09/15	CAN MTL	1	0	0	0	5 8100072
PIEDMONT AIRLINE	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/09/15	CAN MTL	1	0	0	0	5 8100195
UNITED AIR LINES INC	WILMINGTON	NC	BATTS STORAGE WET	COR	78/09/16	BOX FBR	2	0	0	700	5 8100813
FEDERAL EXPRESS CORP	GRAND RAPIDS	MI	MERCURY METALLIC	ORM-B	78/09/18	BLANK	21	0	0	0	5 8091124
PIEDMONT AIRLINE	ROMULUS	MI	POISONOUS LIQ NOS D	POIS D	78/09/18	CAN MTL	3	20	0	0	5 8091499
FEDERAL EXPRESS CORP	JOHNSON CITY	TN	POISONOUS SOL NOS D	POIS D	78/09/19	BAG PLS	2	0	1	50	5 8100574
PAN AMERICAN WORLD AIRWAYS INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/09/20	JUG PLS	11	0	0	200	5 8100082
FEDERAL EXPRESS CORP	LONDON	UK ZZ	FORMALDEHYDE <110GL	ORM-A	78/09/21	BOTL PLS	11	0	0	0	5 8100088
FLYING TIGER LINE INC	MEMPHIS	TN	FORMALDEHYDE <110GL	ORM-A	78/09/21	CONT PLS	11	0	0	0	5 8100034
FEDERAL EXPRESS CORP	JAMAICA	NY	FLAM LIQUIDS N.O.S.	F. L.	78/09/22	BOTL GLS	8	0	0	0	5 8100044
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/09/23	CAN MTL	2	0	0	0	5 8100075
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/09/23	CAN MTL	1	0	0	0	5 8100073
PAN AMERICAN WORLD AIRWAYS INC	MEMPHIS	TN	ACETIC ACID AQU SLN	COR	78/09/23	JUG GLS	11	0	0	0	5 8100074
BRANIFF INTERNATIONAL AIRWAYS	SAN FRANCISCO	CA	CORR LIQ N.O.S.	COR	78/09/25	BOTL PLS	11	21	0	0	5 8100435
FEDERAL EXPRESS CORP	DALLAS	TX	DIOXANE	F. L.	78/09/25	JUG GLS	14	0	0	0	5 8100160
FEDERAL EXPRESS CORP	BURBANK	CA	PAINT ENAM LAQ STAN	F. L.	78/09/27	CAN MTL	3	21	0	0	5 8100953
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/09/27	CAN MTL	1	0	0	0	5 8100431
OZARK AIRLINES INC	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/09/29	CAN MTL	10	0	0	0	5 8100952
PAN AMERICAN WORLD AIRWAYS INC	SIOUX CITY	IA	R.A.M. N.O.S.	R.A.M.	78/09/30	BLANK	0	0	0	0	1 8100328
FEDERAL EXPRESS CORP	SAN FRANCISCO	CA	ETIOLOGIC AGENTSNOS	ETIO.A.	78/10/04	BOTL GLS	17	0	0	0	1 8100704
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/10	37C	1	0	0	0	5 8100823
NORTH CENTRAL AIRLINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/11	CAN MTL	1	0	0	0	5 8110128
FEDERAL EXPRESS CORP	MEGANNEE	MI	BATTS STORAGE WET	COR	78/10/11	BOX FBR	21	0	0	0	5 8110129
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/12	BOTL PLS	1	0	0	100	5 8101321
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/13	37C	1	0	0	0	5 8110127
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/14	37C	15	0	0	0	5 8101488
FEDERAL EXPRESS CORP	LATHAM	NY	METHYLAL	F. L.	78/10/14	BOTL GLS	1	0	0	0	5 8101486
FEDERAL EXPRESS CORP	BURLINGTON	MA	R.A.M. SPEC. FORM	R.A.M.	78/10/10	TYPE B	17	0	0	0	1 8110443
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP CLEANING LIQ C	COR	78/10/10	JUG PLS	11	0	0	0	5 8101465
FEDERAL EXPRESS CORP	E BOSTON	MA	TETRACHLOROETHYLENE	ORM-A	78/10/16	CONT PLS	11	0	0	0	5 8101489
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/19	CAN MTL	1	10	0	0	5 8101487
FEDERAL EXPRESS CORP	DALLAS	TX	PAINT ENAM LAQ STAN	F. L.	78/10/19	CAN MTL	11	0	0	0	5 8110019
FEDERAL EXPRESS CORP	MEMPHIS	TN	BATTS STORAGE WET	COR	78/10/19	BOX FBR	11	0	0	0	5 8111098
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	78/10/25	CAN MTL	11	0	0	0	5 8110338
BRANIFF INTERNATIONAL AIRWAYS	MEMPHIS	TN	PHOSPHORIC ACID	COR	78/10/26	BOTL GLS	1	0	0	0	5 8110415
FEDERAL EXPRESS CORP	MIAMI	FL	NITRIC ACID	COR	78/10/20	JAR GLS	1	0	4	0	5 8110321
BRANIFF INTERNATIONAL AIRWAYS	MEMPHIS	TN	BATTS STORAGE WET	COR	78/10/20	BOX FBR	1	0	0	0	5 8110416
WIEM AIR ALASKA INC	MIAMI	FL	MERCURY COMPS NOS	POIS B	78/10/20	JAR GLS	1	0	0	0	5 8110321
HUGHES AIRWEST	ANCHORAGE	AK	OXYGEN	NONF.G.	78/10/29	3A	1	0	0	0	5 8110331
HUGHES AIRWEST	PORTLAND	OR	LIQ PETROLEUM GAS	F. G.	78/10/31	BOTL	11	0	0	0	5 8110624
FEDERAL EXPRESS CORP	PORTLAND	OR	GASOLINE	F. L.	78/10/31	CAN MTL	11	0	0	0	5 8110624
HUGHES AIRWEST	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/10/31	CAN MTL	1	0	0	0	5 8110336
EMERY AIR FREIGHT CORP	PORTLAND	OR	LIQ PETROLEUM GAS	F. G.	78/10/31	CAN MTL	11	0	0	0	5 8110624
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FEDERAL EXPRESS CORP	MEMPHIS	TN	CONSUMER COMMODITY	ORM-D	78/11/02	BOTL GLS	1 0	0	0	S	8110337
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/11/03	CAN MTL	3 21	0	0	S	8111112
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/11/03	CAN MTL	1 0	0	0	S	8111096
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/11/03	CAN MTL	1 0	0	0	S	8111111
ALLEGHENY AIRLINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/11/04	CAN MTL	1 0	0	0	S	8111097
UNITED AIR LINES INC	HORSENECKS	NY	FLAM LIQUIDS N.O.S.	F. L.	78/11/04	CAN MTL	11 0	0	0	S	8110925
PAN AMERICAN WORLD AIRWAYS INC	CHICAGO	IL	MERCURY METALLIC	ORM-B	78/11/06	BLANK	17 0	0	0	S	8110617
WIEN AIR ALASKA INC	SAN FRANCISCO	CA	SODIUM CHLORITE<43%	COR	78/11/07	BOTL PLS	11 0	0	0	S	8120224
FEDERAL EXPRESS CORP	DEADHORSE	AK	ETCHING ACID N.O.S.	COR	78/11/09	BOTL PLS	11 0	0	0	S	8120184
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/11/16	17E	10 0	0	0	S	8120179
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	78/11/16	BOTL GLS	1 0	0	0	S	8120180
FEDERAL EXPRESS CORP	MEMPHIS	TN	EXTRACTS LIQ FLAVOR	F. L.	78/11/17	17E	13 0	0	0	S	8120363
FEDERAL EXPRESS CORP	ROCHESTER	NY	XYLENE (XYLOL)	F. L.	78/11/17	CAN	2 0	0	25	S	8111471
FEDERAL EXPRESS CORP	ROCHESTER	NY	XYLENE (XYLOL)	F. L.	78/11/17	CAN MTL	2 0	0	25	S	8120223
CONTINENTAL AIRLINES	MEMPHIS	TN	EXTRACTS LIQ FLAVOR	F. L.	78/11/17	17E	2 0	0	0	S	8120359
FEDERAL EXPRESS CORP	OKLAHOMA CITY	OK	FLAM LIQUIDS N.O.S.	F. L.	78/11/21	BOX FBR	17 0	0	0	2	8.20342
BRITISH OVERSEAS AIRWAYS CORP	BOSTON	MA	LEATHER BLEACH/DRES	F. L.	78/11/22	CAN MTL	10 0	0	0	S	8120279
FEDERAL EXPRESS CORP	ROMULDWAY UK	ZZ	MATCHES SAFETY	F. S.	78/11/27	BOX FBR	17 0	0	0	1	8120476
LUFTHANSA GERMAN AIRLINES INC	MEMPHIS	TN	RESIN SOLUTION	F. L.	78/11/28	CAN MTL	11 0	0	0	S	8120222
DELTA AIR LINES INC	JAMAICA	NY	IRRITATING AGENTNOS	IRR	78/11/30	DRUM PLS	11 0	0	0	S	8120456
FEDERAL EXPRESS CORP	TAMPA	FL	N.A.M. N.O.S.	N.A.M.	78/12/01	TYPE A	1 0	2	0	1	8120156
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP PAINT REMOVE F	F. L.	78/12/01	CAN MTL	8 11	0	0	S	8120577
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/12/05	CAN MTL	1 0	0	51	S	8120582
FEDERAL EXPRESS CORP	MEMPHIS	TN	ACRYLIC ACID	COR	78/12/05	CAN MTL	11 0	0	0	S	8120742
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	78/12/06	BOTL PLS	2 0	0	0	S	8120740
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/12/06	CAN MTL	21 0	0	0	S	8120578
BRANIFF INTERNATIONAL AIRWAYS	FLUSHING	NY	BATTS STORAGE WET	COR	78/12/07	NONE	20 0	0	0	S	8120743
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	78/12/07	17C	2 0	0	0	S	8120581
FEDERAL EXPRESS CORP	MEMPHIS	TN	SODIUM HYDROXIDE LQ	COR	78/12/07	BOTL GLS	11 0	0	0	S	8120580
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP CLEANING LIQ F	F. L.	78/12/09	17E	2 0	0	0	S	8120741
AIRLIFT INTERNATIONAL INC	JAMAICA	NY	ALCOHOL N.O.S.	F. L.	78/12/14	BOTL GLS	17 0	0	0	S	8120738
AFRICAN AIRLINES INC	WASHINGTON	DC	FORMALDEHYDE (110GL	ORM-A	78/12/20	JUG PLS	17 0	0	0	S	8120739
UNITED AIR LINES INC	DENVER	CO	N.A.M. N.O.S.	N.A.M.	79/01/03	BOTL GLS	17 0	0	1000	S	9020378
UNION FLIGHTS INC	SACRAMENTO	CA	N.A.M. N.O.S.	N.A.M.	79/01/04	7A	22 0	0	0	S	90203779
FEDERAL EXPRESS CORP	MEMPHIS	TN	LIQ PETROLEUM GAS	F. G.	79/01/09	3E	10 11	0	0	S	9010708
UNITED AIR LINES INC	LOS ANGELES	CA	FLAM LIQUIDS N.O.S.	F. L.	79/01/10	CAN MTL	8 0	0	0	S	9010432
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/01/12	CAN MTL	10 0	0	0	S	9010707
FEDERAL EXPRESS CORP	SAN FRANCISCO	CA	PAINT ENAM LAQ STAN	F. L.	79/01/26	CAN MTL	1 0	0	0	S	9020003
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/01/27	37C	3 21	0	0	S	9020375
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/01/31	BOTL GLS	1 0	0	0	S	9020376
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/02/03	CAN MTL	1 0	0	0	S	9030001
OZARK AIRLINES INC	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/02/03	37C	1 0	0	0	S	9030003
FEDERAL EXPRESS CORP	NASHVILLE	TN	NON REGULATED MTRL		79/02/08		0 0	0	20	0	9030006
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/02/08	37C	1 0	0	0	S	9030004
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/02/13	37C	1 0	0	0	S	9030005
HUGHES AIRWEST	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/02/14	CAN MTL	1 0	0	0	S	9030002
HUGHES AIRWEST	SEATTLE	WA	ALCOHOL N.O.S.	F. L.	79/02/21	CAN MTL	10 11	0	0	S	9031483
FEDERAL EXPRESS CORP	SEATTLE	WA	ALCOHOL N.O.S.	F. L.	79/02/21	CAN MTL	17 0	0	0	S	9030575
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FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR PAINT REMOVE F	F. L.	79/02/27	17E	1	0	0	0	S 9030787
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQ NOS	F. L.	79/02/27	37A	1	0	0	0	S 9030574
EASTERN AIR LINES	TAMPA	FL	GASOLINE	F. L.	79/02/28	CONT	17	0	0	0	S 9030784
UNITED AIR LINES INC	CHICAGO	IL	XYLENE (XYLOL)	F. L.	79/03/01	CAN MTL	10	0	0	100	S 9030789
FEDERAL EXPRESS CORP	ROMULUS	MI	SULFURIC ACID	COR	79/03/02	BOTL PLS	9	0	0	0	S 9040147
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/02	37C	11	0	0	0	S 9040146
FRONTIER AIRLINES	LOS ANGELES	CA	PAINT ENAM LAQ STAN	F. L.	79/03/03	CAN MTL	1	0	0	0	S 9040150
	DENVER	CO	R.A.M. N.O.S.	R.A.M.	79/03/03		0	0	0	0	9031028
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/03/06	CAN MTL	1	0	0	0	S 9040152
FEDERAL EXPRESS CORP	GREENSBORO	NC	PAINT ENAM LAQ STAN	F. L.	79/03/06	CAN MTL	1	0	0	40	S 9040144
JAPAN AIR LINES CO LTD	HONOLULU	HI	FLAM LIQUIDS N.O.S.	F. L.	79/03/07	DRUM MTL	12	0	0	1	S 9030788
FEDERAL EXPRESS CORP	DALLAS	TX	CONSUMER COMMODITY	ORM-D	79/03/09	BOTL PLS	11	0	0	0	S 9040148
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/10	CAN MTL	1	0	0	0	S 9040149
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/03/10	BOTL GLS	1	0	0	0	S 9040151
FEDERAL EXPRESS CORP	SAN FRANCISCO	CA	FLAM LIQUIDS N.O.S.	F. L.	79/03/12	BOTL GLS	1	0	0	0	S 9040001
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/13	37C	2	0	0	0	S 9040145
FEDERAL EXPRESS CORP	ARLINGTON	VA	PAINT ENAM LAQ STAN	F. L.	79/03/14	BOTL PLS	11	0	0	0	S 9031482
LUFTHANSA GERMAN AIRLINES INC	JAMAICA	NY	PHOSPHORUS WH/YLDRY	F. S.	79/03/16	TYPE A	1	0	0	0	S 9050012
WIEN AIR ALASKA	ANCHORAGE	AK	CA HYPOCHLORITE MIX	OXIDIZR	79/03/19		0	0	0	0	9031484
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/20	17E	2	0	0	0	S 9050002
AMERICAN AIRLINES INC	HOUSTON	TX	MERCURY METALLIC	ORM-D	79/03/22	BLANK	17	0	0	0	S 9040461
FEDERAL EXPRESS CORP	MEMPHIS	TN	TETRAHYDROFURAN	F. L.	79/03/22	BOTL GLS	11	0	0	0	S 9050003
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/22	37A	11	0	0	0	S 9050006
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR LIQ N.O.S.	COR	79/03/23	BOTL GLS	1	0	0	0	S 9050008
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	79/03/27	CAN MTL	11	0	0	0	S 9040442
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	79/03/27	CAN MTL	11	0	0	0	S 9040443
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/03/30	CAN MTL	1	0	0	0	S 9040770
FEDERAL EXPRESS CORP	DALLAS	TX	PAINT ENAM LAQ STAN	F. L.	79/03/31	CAN MTL	1	0	0	0	S 9040785
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/03/31	17E	1	0	0	0	S 9040774
	LOUISVILLE	KY	INK	F. L.	79/03/31	CAN MTL	1	0	0	0	S 9040775
AIRLIFT INTERNATIONAL INC	JAMAICA	NY	ACETIC ACID GLACIAL	COR	79/04/02	BOTL GLS	10	0	0	0	S 9040768
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/03	CAN MTL	0	0	0	0	S 9040776
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/04/03	CAN MTL	1	0	0	0	S 9040771
FEDERAL EXPRESS CORP	DALLAS	TX	FLAM LIQUIDS N.O.S.	F. L.	79/04/04	BOTL GLS	1	0	0	46	S 9040778
FRONTIER AIRLINES	DENVER	CO	R.A.M. N.O.S.	R.A.M.	79/04/04	CONT PLS	1	0	0	0	1 9050011
FEDERAL EXPRESS CORP	BURBANK	CA	RESIN SOLUTION	F. L.	79/04/04	37B	2	0	0	0	S 9040773
AMERICAN AIRLINES INC	TULSA	OK	BATTS STORAGE WET	COR	79/04/04	BOX WOOD	20	0	0	0	S 9040462
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/04	37C	1	0	0	0	S 9040784
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/04/06	CAN MTL	11	0	0	0	S 9040783
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/07	CAN MTL	1	0	0	0	S 9040769
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/07	BOTL PLS	11	0	0	0	S 9040779
FEDERAL EXPRESS CORP	MEMPHIS	TN	POISONOUS LIQ NOS B	POIS B	79/04/07	CAN MTL	1	0	0	0	S 9040772
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/07	37C	11	0	0	0	S 9040779
	SEATTLE	WA	ORM A NOS	ORM-A	79/04/10	37A	2	20	0	0	S 9040781
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/10	CAN MTL	10	0	0	0	S 9040786
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR PAINT REMOVE F	F. L.	79/04/11	CAN MTL	11	0	0	0	6 9040787
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/12	17E	11	0	0	0	S 9040780
EMERY AIR FREIGHT CORP	MIAMI	FL	OXI MATERIAL N.O.S.	OXIDIZR	79/04/12	BAG PPR	3	20	0	60	S 9080757
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/13	37C	1	0	0	0	S 9040702

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FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/13	CAN MTL	1	11	0	0	S 9050004
FEDERAL EXPRESS CORP	MINNEAPOLIS	MN	PAINT ENAM LAQ STAN	F. L.	79/04/15	CAN MTL	13	0	0	15	S 9040777
FEDERAL EXPRESS CORP	MEMPHIS	TN	OIL N.O.S.	F. L.	79/04/16	CYL MTL	17	0	0	0	S 9050408
WESTERN AIRLINES	SEATTLE	WA	SOLVENTS N.O.S.	F. L.	79/04/17	BOTL GLS	1	0	1	0	S 9050390
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/17	37C	2	0	0	0	S 9050067
SEABOARD WORLD AIRLINES INC	CHICAGO	IL	R.A.M. SPEC. FORM	R.A.M.	79/04/18	TYPE A	17	0	0	0	I 9050389
SEABOARD WORLD AIRLINES INC	CHICAGO	IL	R.A.M. LOW SPEC ACT	R.A.M.	79/04/18	TYPE A	13	0	0	0	P 9050013
AMERICAN AIRLINES INC	FLUSHING	NY	CORR LIQ N.O.S.	COR	79/04/18	LINR PLS	14	0	3	0	S 9040001
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/19	CAN MTL	1	0	0	0	S 9050010
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP PAINT REMOVE F	F. L.	79/04/19	37D	11	0	0	0	S 9050065
ALASKA INTERNATIONAL AIR INC	FAIRBANKS	AK	FUEL AVIATION TURBN	F. L.	79/04/21	17E	9	13	0	2500	S 9050001
FEDERAL EXPRESS CORP	LOUISVILLE	KY	CEMENT LIQ NOS	F. L.	79/04/23	BOTL	1	0	0	0	S 9050404
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/24	CAN MTL	1	0	0	0	S 9050089
FEDERAL EXPRESS CORP	TULSA	OK	RESIN SOLUTION	F. L.	79/04/24	CAN MTL	1	0	0	0	S 9050406
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/26	CAN MTL	1	0	0	0	S 9050405
FEDERAL EXPRESS CORP	MEMPHIS	TN	SOLVENTS N.O.S.	F. L.	79/04/27	CAN MTL	11	0	0	0	S 9050907
FEDERAL EXPRESS CORP	HUNTINGTN BCH	CA	PAINT ENAM LAQ STAN	F. L.	79/04/27	CAN MTL	11	0	0	0	S 9050908
FEDERAL EXPRESS CORP	MEMPHIS	TN	ISOBUTYL ACETATE	F. L.	79/04/27	37C	9	1	0	0	S 9050409
DELTA AIR LINES INC.	BALTIMORE	MD	XENON	NONF.G.	79/04/27	BOTL GLS	10	0	0	0	S 9050407
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/27	BOTL GLS	11	0	0	0	S 9050402
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/04/28	37C	11	0	0	0	S 9050906
FEDERAL EXPRESS CORP	LOUISVILLE	KY	FLAM LIQUIDS N.O.S.	F. L.	79/04/28	CAN MTL	11	0	0	0	S 9050916
DELTA AIR LINES INC	BALTIMORE	MD	XENON	NONF.G.	79/04/30	17E	11	0	1	0	S 9050912
EASTERN AIR LINES	PORTLAND	OR	R.A.M. LOW SPEC ACT	R.A.M.	79/04/30	BOTL GLS	11	0	0	0	S 9050403
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/04/30	BOTL PLS	17	0	0	0	C 9060438
EASTERN AIR LINES	ST PAUL	MN	R.A.M. N.O.S.	R.A.M.	79/05/01	BOTL GLS	1	0	0	0	S 9050914
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/02	TYPE A	1	0	0	0	I 9050903
FEDERAL EXPRESS CORP	ONTARIO	CA	CEMENT LIQ NOS	F. L.	79/05/02	CAN MTL	11	0	0	0	S 9050910
FEDERAL EXPRESS CORP	MEMPHIS	TN	CO2 SOLID	ORM-A	79/05/03	CAN MTL	2	0	0	0	S 9050915
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/03	CONT ST7	1	0	0	0	S 9050904
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/04	CAN MTL	8	0	0	0	S 9050911
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/05/04	CAN MTL	2	20	0	0	S 9050910
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/05/05	CAN MTL	8	0	0	0	S 9050906
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/05	17C	10	0	0	0	S 9050909
HUGHES AIRWEST	PHOENIX	AZ	KEROSENE	COMB L	79/05/05	CAN MTL	8	0	0	0	S 9050917
FRONTIER AIRLINES	BOZEMAN	MT	FLAM LIQUIDS N.O.S.	F. L.	79/05/07	AIR PLS	17	0	0	0	S 9040907
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/05/07	JAR GLS	1	0	0	0	S 9050588
AMERICAN AIRLINES INC	DALLAS	TX	FINISHERS COMMON	EXPL.C.	79/05/08	BOX FBR	1	0	0	0	S 9040894
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/08	37C	1	0	0	0	S 9050791
FEDERAL EXPRESS CORP	HARRISBURG	PA	PAINT ENAM LAQ STAN	F. L.	79/05/09	37C	1	0	0	0	S 9050988
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/09	37A	8	11	0	0	S 9050913
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/10	CAN MTL	8	0	0	0	S 9040905
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/05/10	37C	1	0	0	0	S 9040340
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/11	CAN MTL	11	0	0	0	S 9040903
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/05/11	CAN MTL	1	0	0	0	S 9040338
OZARK AIRLINES INC	SANTA ANA	CA	PETROLEUM ETHER	F. L.	79/05/11	37C	1	0	0	0	S 9040334
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/16	BOTL GLS	20	0	0	0	S 9040342
CONTINENTAL AIRLINES	METAIRIE	LA	BATTS STORAGE WET	COR	79/05/17	CAN MTL	1	0	0	0	S 9040341
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/05/18	BOX FBR	20	0	0	100	S 9050902
					79/05/19	37C	1	0	0	0	S 9040339

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PAN AMERICAN WORLD AIRWAYS INC	PLEASANTON	CA	SODIUM CHLORITE<43%	COR	79/05/19	BOTL	17	0	0	0	S	9060343
FRONTIER AIRLINES	SCOTTSBLUFF	NE	SULFURIC ACID	COR	79/05/20	BOTL PLS	1	0	0	0	S	9060006
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/22	CAN MTL	2	20	0	0	S	9060337
CONTINENTAL AIR MICRONESIA	TARUMING	GQ	TETRAHYDROFURAN	F. L.	79/05/23		0	0	0	0		9060062
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/24	CAN MTL	11	0	0	0	S	9061220
DELTA AIR LINES INC	BALTIMORE	MD	R.A.M. N.O.S.	R.A.M.	79/05/25	CONT GLS	11	0	0	0	I	9060339
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/25	BOTL PLS	11	0	0	0	S	9061213
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/26	17E	11	0	0	0	S	9061211
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/26	CAN MTL	11	0	0	0	S	9061217
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/05/26	17E	11	0	0	0	S	9061213
ZANTOP INTERNATIONAL AIRLINES	ST LOUIS	MO	GASOLINE	F. L.	79/05/31	CONT	1	0	0	10000	A	9070714
AIRLIFT INTERNATIONAL INC	JAMAICA	NY	POISONOUS LIQ NOS P	POIS P	79/05/31	17E	14	0	0	0	S	9060653
FEDERAL EXPRESS CORP	ATLANTA	GA	DICHLOROMETHANE	ORM-A	79/06/01	BOTL GLS	1	0	0	0	S	9061210
FEDERAL EXPRESS CORP	S SN FRANCSCO	CA	PAINT EMAM LAQ STAN	F. L.	79/06/05	17A	1	0	0	0	S	9061215
BRANIFF INTERNATIONAL AIRWAYS	DALLAS	TX	BATTS STORAGE WET	COR	79/06/05	BOX FBR	1	0	0	30	S	9060684
FEDERAL EXPRESS CORP	LEXINGTON	KY	PAINT EMAM LAQ STAN	F. L.	79/06/05	CAN MTL	8	0	0	0	S	9061214
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/06/06	CAN MTL	1	0	0	0	S	9061216
WIEN AIR ALASKA	ANCHORAGE	AK	FIRE EXTINGUISHERS	NONF.G.	79/06/06	CYL MTL	1	0	0	50	S	9061221
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP PAINT REMOVE F	F. L.	79/06/06	CAN MTL	11	0	0	0	S	9061218
FEDERAL EXPRESS CORP	MEMPHIS	TN	COMP PAINT REMOVE F	F. L.	79/06/07	CAN MTL	11	0	0	0	S	9061219
ALLEGHENY AIRLINES INC	AUSTIN	TX	PAINT EMAM LAQ STAN	F. L.	79/06/09	CAN MTL	1	0	0	0	S	9070005
FEDERAL EXPRESS CORP	BOSTON	MA	DICHLOROMETHANE	ORM-A	79/06/12	BLAMM	14	0	1	0	S	9070001
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/12	CAN MTL	11	0	0	0	S	9070003
AMERICAN AIRLINES INC	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/06/12	CAN MTL	11	0	0	0	S	9070009
FEDERAL EXPRESS CORP	HOUSTON	TX	CORR LIQ N.O.S.	COR	79/06/13	BOTL PLS	1	0	0	30	S	9070002
FEDERAL EXPRESS CORP	HOUSTON	TX	COMP PAINT REMOVE F	F. L.	79/06/14	BOTL PLS	11	0	0	0	S	9070008
FEDERAL EXPRESS CORP	ATLANTA	GA	FLAM LIQUIDS N.O.S.	F. L.	79/06/14	CAN MTL	11	0	0	0	S	9070004
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/14	17E	11	0	0	0	S	9070004
BRITISH OVERSEAS AIRWAYS CORP	SYDNEY	AS	COMP CLEANING LIQ F	F. L.	79/06/14		0	0	0	0		9070701
BRITISH OVERSEAS AIRWAYS CORP	SYDNEY	AS	ORM A NOS	ORM-A	79/06/14		0	0	0	0		9081122
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	79/06/15	17H	1	0	0	0	S	9070006
FEDERAL EXPRESS CORP	PHOENIX	AZ	PAINT EMAM LAQ STAN	F. L.	79/06/15	CAN MTL	14	0	0	0	S	9070010
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/15	CAN MTL	1	0	0	0	S	9070703
FEDERAL EXPRESS CORP	MEMPHIS	TN	FORMALDEHYDE <110GL	ORM-A	79/06/15	CONT PLS	11	0	0	0	S	9070007
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/15	CAN MTL	11	0	0	0	S	9070700
UNITED AIR LINES INC	MEMPHIS	TN	TOLUENE	F. L.	79/06/16	CAN MTL	11	0	0	0	S	9070702
TRANS WORLD AIRLINES INC	FORT WAYNE	IN	BATTS STORAGE WET	COR	79/06/17	BOX WOOD	20	0	0	100	S	9070012
FEDERAL EXPRESS CORP	INDIANAPOLIS	IN	ACETIC ACID ADU SLN	COR	79/06/21	BOTL PLS	10	0	0	0	S	9070011
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/22	CAN MTL	10	0	0	0	S	9070709
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/22	CAN MTL	1	0	0	0	S	9070710
FEDERAL EXPRESS CORP	S SN FRANCSCO	CA	COMP PAINT REMOVE F	F. L.	79/06/22	CAN MTL	8	11	0	0	S	9081126
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/06/22	17C	14	15	0	0	S	9070712
NORTHWEST AIRLINES INC	S SN FRANCSCO	CA	COMP PAINT REMOVE F	F. L.	79/06/22	CAN MTL	11	0	0	0	S	9070705
FEDERAL EXPRESS CORP	DETROIT	MI	R.A.M. N.O.S.	R.A.M.	79/06/26	BOTL	1	0	0	0	I	9070713
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/28	CAN MTL	8	0	0	0	S	9071014
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/28	CAN MTL	1	0	0	0	S	9070706
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/28	17C	1	0	0	0	S	9070707
EMERY AIR FREIGHT CORP	NEWARK	NJ	ORM A NOS	ORM-A	79/06/29	DRUR MTL	2	0	0	817	S	9081124
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT EMAM LAQ STAN	F. L.	79/06/29	17C	1	0	0	0	S	9070711

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CARRIER	INCIDENT LOCATION		CARRIER?	CLASS	DATE	CONTAINER	FATALITIES	INJ	DAMAGE$	R	REPORT NO
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/06/29	37C	1	0	0	0	S 9001129
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/07/07	17E	0	20	0	0	S 9000204
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/07	17E	0	0	0	0	S 9000983
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/07	CAR RTL	0	0	0	0	S 9000011
FRONTIER AIRLINES	DENVER	CO	BATTS STORAGE WET	COR	79/07/09	BOX FBO	1	0	0	0	S 9000534
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/10	37C	0	0	0	0	S 9000989
TRANS WORLD AIRLINES INC	ALBUQUERQUE	NM	GASOLINE	F. L.	79/07/10	TANK PST	7	0	0	0	S 9001131
FEDERAL EXPRESS CORP	MEMPHIS	TN	SODIUM HYDROXIDE LQ	COR	79/07/11	BOTL PLS	10	0	0	0	S 9100006
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/12	CAR RTL	3	11	0	0	S 9000008
CONTINENTAL AIRLINES	NEW ORLEANS	LA	FLAM LIQUIDS N.O.S.	F. L.	79/07/12	CAR RTL	10	0	0	0	S 9000543
FEDERAL EXPRESS CORP	OKLAHOMA CITY	OK	GASOLINE	F. L.	79/07/12	BOX WOOD	15	0	0	0	S 9001123
DELTA AIR LINES INC	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/07/13	CAR RTL	10	0	0	0	S 9000010
FEDERAL EXPRESS CORP	BALTIMORE	MD	R.A.M. N.O.S.	R.A.M.	79/07/13	BOTL GLS	11	0	0	1	S 9000007
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQUIDS	F. L.	79/07/13	CAR RTL	11	0	0	0	S 9000007
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/07/14	20	11	6	0	0	S 9000005
DELTA AIR LINES INC	CHICAGO	IL	PAINT ENAM LAQ STAN	F. L.	79/07/14	CAR RTL	1	0	0	0	S 9000544
BRITISH OVERSEAS Airways CORP	DETROIT	MI	MATCHES STR ANYWHER	F. S.	79/07/16	CONT	17	0	0	0	S 9000001
FRONTIER AIRLINES	DENVER	CO	MERCURY METALLIC	CAR-X	79/07/19	BOX FBO	17	1	0	0	S 9000002
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/19	PLANE	17	0	0	0	S 9000762
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/19	CAR RTL	3	0	0	0	S 9000542
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/20	37C	3	20	0	0	S 9000769
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/21	37A	11	0	0	0	S 9000761
LYNDEN AIR FREIGHT CORP	ANCHORAGE	AK	POTASS HYDROXIDE LQ	COR	79/07/24	CONT PLS	14	0	0	0	S 9000790
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT RUBBER	F. L.	79/07/25	CAR RTL	3	0	0	0	S 9000763
FEDERAL EXPRESS CORP	EVANSVILLE	IL	PAINT ENAM LAQ STAN	F. L.	79/07/26	37C	0	11	0	0	S 9000759
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/28	CAR RTL	3	0	0	0	S 9001127
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/07/28	CAR RTL	13	0	0	0	S 9001128
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR LIQ N.O.S.	COR	79/07/31	BOTL GLS	1	0	0	0	S 9001130
FEDERAL EXPRESS CORP	PHOENIX	AZ	PAINT ENAM LAQ STAN	F. L.	79/08/01	CAR RTL	1	0	0	0	S 9001547
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/02	JAR GLS	1	0	0	0	S 9001549
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/03	37C	1	0	0	0	S 9001548
TEXAS INTERNATIONAL AIRLINES	DALLAS	TX	BATTS STORAGE WET	COR	79/08/04	BOX WOOD	1	0	0	0	S 9970014
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/04	BOX WOOD	1	0	0	0	S 9990036
TEXAS INTERNATIONAL AIRLINES	DALLAS	TX	BATTS STORAGE WET	COR	79/08/04	CAR RTL	1	0	0	0	S 9990010
UNITED AIR LINES INC	CHICAGO	IL	CORR LIQ N.O.S.	COR	79/08/04	BOX WOOD	1	0	0	0	S 9100007
SUMMIT AIRLINES INC	JAMAICA	NY	PAINT ENAM LAQ STAN	F. L.	79/08/07	JAR PLS	50	0	0	1200	S 9001553
UNITED AIR LINES INC	CHICAGO	IL	ACETIC ACID GLACIAL	COR	79/08/08	CAR RTL	1	0	0	100	S 9001552
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/09	BOTL	15	0	0	0	S 9990009
NORTHWEST AIRLINES INC	CHICAGO	IL	RESIN SOLUTION	F. L.	79/08/10	37C	1	0	0	0	S 9990009
FEDERAL EXPRESS CORP	HAVANNA	LA	RESIN SOLUTION	F. L.	79/08/10	CAR RTL	1	0	0	0	S 9990024
FEDERAL EXPRESS CORP	ATLANTA	GA	PAINT ENAM LAQ STAN	F. L.	79/08/10	CAR PLS	0	10	0	0	S 9990006
NORTHWEST AIRLINES INC	CHICAGO	IL	STYRENE MONOMER INH	F. L.	79/08/10	CAR RTL	1	0	0	0	S 9990019
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR PAINT SUBSTANCE	F. L.	79/08/10	CAR RTL	1	0	0	0	S 9990024
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/11	CAR RTL	1	0	0	0	S 9990011
EASTERN AIR LINES	ATLANTA	GA	MERCURY METALLIC	CAR-X	79/08/11	37A	1	0	0	0	S 9001551
UNITED AIR LINES INC	WINDSOR LOCKS	CT	PETROLEUM DISTILLAT	F. L.	79/08/12	BOTL PLS	1	0	0	3000	S 9990003
AMERICAN AIRLINES INC	EVANSVILLE	IN	FORMALDEHYDE SOLUTI	CAR-X	79/08/13	CAR RTL	1	0	0	2000	S 9001554
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/13	BOTL PLS	1	0	0	0	S 9990021
					79/08/14	37C	11	0	0	0	S 9001590

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AIR INCIDENTS - JAN 1970 THRU DEC 1979

CARRIER	INCIDENT LOCATION		COMMODITY	CLASS	DATE	CONTAINR	FATALITIES	INJ	DAMAGES	A	REPORT NO
FEDERAL EXPRESS CORP	ATLANTA	GA	PAINT ENAM LAQ STAN	F. L.	79/08/14	17G	1	0	0	0	S 9090010
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/14	17C	2	0	0	0	S 9090005
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORP PAINT REMOVE F	F. L.	79/08/14	CAN RTL	0	0	0	0	S 9090021
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/14	17A	1	0	0	0	S 9090008
FEDERAL EXPRESS CORP	MEMPHIS	TN	ACETONE	F. L.	79/08/14	2E	11	0	0	0	S 9090018
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/14	CAN RTL	1	0	0	0	S 9090020
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORP PAINT REMOVE F	F. L.	79/08/17	CAN RTL	1	0	0	0	S 9090012
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/17	17A	0	0	0	0	S 9090022
FEDERAL EXPRESS CORP	MEMPHIS	TN	INSECTICIDE LIQUID	POIS B	79/08/18	AIR BLO	1	0	0	0	S 9090007
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/21	CAN RTL	1	0	0	0	S 9090023
FEDERAL EXPRESS CORP	MEMPHIS	TN	COATING SOLUTION	F. L.	79/08/21	17B	1	0	0	0	S 9090004
PAN AMERICAN WORLD AIRWAYS INC	FRANKFURT	GE	PAINT ENAM LAQ STAN	F. L.	79/08/21	CAR RTL	2	0	0	1	S 9090009
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/22	17A	11	0	0	0	S 9090017
FEDERAL EXPRESS CORP	MEMPHIS	TN	AMMON HYDROXIDE -45	COR	79/08/23	DOT1 PG	11	0	0	0	S 9090015
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/25	17C	0	0	0	0	S 9090010
DELTA AIR LINES INC	FT LAUDERDALE	FL	METHYL ETHYL KETONE	F. L.	79/08/26	AIR PG	11	0	0	0	S 9090007
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/08/29	17A	11	0	0	0	S 9091250
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR SOLID N.O.S.	COR	79/08/30	DOT1 PG	11	0	0	0	S 9090008
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQ ABOI	F. L.	79/08/31	17C	0	0	0	0	S 9091255
BRITISH OVERSEAS AIRWAYS CORP	SAN FRANCISCO	CA	EXPLOSIVES CLASS C	EXPL.C.	79/09/05		0	0	0	0	9100001
FEDERAL EXPRESS CORP	PHOENIX	AZ	ETCLENE (ETYLOL)	F. L.	79/09/07	17C	13	0	0	0	S 9091257
DELTA AIR LINES INC	SAN FRANCISCO	CA	BATTS STORAGE WET	CBM	79/09/10		0	0	0	0	9092024
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/09/14	17E	11	0	0	0	S 9091200
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/09/14	CAN RTL	11	0	0	0	S 9092033
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/09/18	17A	0	11	0	0	S 9092026
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR LIQ N.O.S.	COR	79/09/18	DOT1 PG	11	0	0	0	S 9092029
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/09/19	CAN RTL	1	0	0	0	S 9092034
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/09/19	CAR RTL	0	11	0	0	S 9092027
FEDERAL EXPRESS CORP	MEMPHIS	TN	SODIUM HYDROXIDE LQ	COS	79/09/19	DOT1 PG	11	0	0	0	S 9092032
FEDERAL EXPRESS CORP	BALTIMORE	MD	CONSUMER COMMODITY	CON-O	79/09/19	CAR RTL	2	0	0	0	S 9092031
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/09/21	17A	11	0	0	0	S 9092030
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/09/21	CAR RTL	0	11	0	0	S 9092028
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORR A NOS	CRR-A	79/09/21	17E	1	0	0	0	S 9092035
NIMROD AIR CHARTER INC	MIAMI	FL	RESIN SOLUTION	F. L.	79/09/21	CAR RTL	0	0	0	0	S 9100009
PAN AMERICAN WORLD AIRWAYS INC	LONDON	UK	BATTS STORAGE WET	COR	79/10/03	15A	1	0	0	0	S 9100006
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/10/03	DOT1 PG	11	0	0	0	S 9100001
EASTERN AIR LINES	PITTSBURGH	PA	FIRE EXTINGUISHERS	ROOM .G.	79/10/04	2E	1	0	0	0	S 9100002
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/10/09	CAR RTL	1	0	0	0	S 9100004
PAN AMERICAN WORLD AIRWAYS INC	AUCKLAND	NZ	R.A.M. N.O.S.	R.A.M.	79/10/10		0	0	0	0	9120007
PAN AMERICAN WORLD AIRWAYS INC	SYDNEY	AS	FIRE EXTINGUISHERS	ROOM .S.	79/10/11	CYL RTL	1	0	0	0	S 9151253
FEDERAL EXPRESS CORP	MEMPHIS	TN	CONSUMER COMMODITY	CRR-O	79/10/12	DOT1 EG.O	1	0	0	0	S 9100008
FEDERAL EXPRESS CORP	MEMPHIS	TN	CRR A NOS	CRR-O	79/10/12	DOT1 EG.O	1	0	0	0	S 9100007
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/10/13	DOT1 PG	2	0	0	0	S 9100010
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/10/13	17A	0	11	0	0	S 9100017
FRONTIER AIRLINES	DENVER	CO	GALLIUM METAL SOLID	CRR-O	79/10/14		0	0	0	0	9100019
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/10/14	CAR RTL	11	0	0	0	S 9100009
AMERICAN AIRLINES INC	MIAMI	FL	R.A.M. N.O.S.	R.A.M.	79/10/16	BOX FIB	2	0	0	1	S 9100001
WIEN AIR ALASKA	FAIRBANKS	AK	GASOLINE	F. L.	79/10/17	BOX WOOD	21	0	0	0	S 9100022
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/10/17	17C	2	0	0	0	S 9100011

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FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/10/18	AIR FLT	2	0	0	0	S 9110016
UNITED AIR LINES INC	JAMAICA	NY	NON REGULATED MTRL		79/10/19		0	0	0	0	9110021
FEDERAL EXPRESS CORP	MEMPHIS	TN	CORF PAINT REMOVE F	F. L.	79/10/20	37B	10	0	0	0	S 9110004
FEDERAL EXPRESS CORP	MEMPHIS	TN	METHYL ETHYL KETONE	F. L.	79/10/24	CAN RTL	11	0	0	0	S 9110009
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/10/24	PAIL PLS	1	0	0	0	S 9110010
FEDERAL EXPRESS CORP	MEMPHIS	TN	BATTS STORAGE WET	CGR	79/10/26	BOX FBR	2	0	0	0	S 9110003
FRONTIER AIRLINES	DENVER	CO	MERCURY METALLIC	ORM-D	79/10/31	LUGGAGE	1	0	0	0	S 9110020
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/11/01	CAN RTL	1	0	0	0	S 9110013
AMERICAN AIRLINES INC	MEMPHIS	TN	BATTS STORAGE WET	CGR	79/11/01	BOX FBR	39	0	0	0	S 9120001
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/11/02	37A	9	11	0	0	S 9110015
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/11/03	37C	1	0	0	0	S 9110016
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/11/03	CAN RTL	11	0	0	0	S 9110002
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQ NOS	F. L.	79/11/06	CAN RTL	1	0	0	0	S 9110014
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/11/10	CAN RTL	1	0	0	0	S 9110006
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/11/14	CAN RTL	11	0	0	0	S 9120004
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/11/15	37C	1	0	0	0	S 9120005
FEDERAL EXPRESS CORP	MEMPHIS	TN	RESIN SOLUTION	F. L.	79/11/21	37A	14	0	0	0	S 9120003
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/11/21	CAN RTL	11	0	0	0	S 9120002
TRANS WORLD AIRLINES INC	ALBUQUERQUE	NM	METHYL CHLOROFORM	ORM-A	79/11/27	BOTL PLS	11	0	0	0	S 0010022
NORTHWEST AIRLINES INC	MINNEAPOLIS	MN	R.A.M. N.O.S.	R.A.M.	79/11/28	7A	1	0	0	1	S 9120006
FEDERAL EXPRESS CORP	MEMPHIS	TN	GASOLINE	F. L.	79/11/30	CAN RTL	8	11	0	0	S 0010014
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/11/30	CAN RTL	1	0	0	0	S 0010015
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/12/01	BOTL GLS	1	0	0	0	S 0010004
FEDERAL EXPRESS CORP	MEMPHIS	TN	FLAM LIQUIDS N.O.S.	F. L.	79/12/01	CAN RTL	11	0	0	0	S 0010005
FEDERAL EXPRESS CORP	MEMPHIS	TN	PAINT ENAM LAQ STAN	F. L.	79/12/01	27A	1	0	0	0	S 0010017
BRANIFF INTERNATIONAL AIRWAYS	DALLAS	TX	R.A.M. N.O.S.	R.A.M.	79/12/11		0	0	0	0	0010002
FRONTIER AIRLINES	DENVER	CO	BATTS STORAGE WET	CGR	79/12/14	BOX	20	0	0	0	S 0010019
FRONTIER AIRLINES	DENVER	CO	GASOLINE	F. L.	79/12/15	HOME	17	0	300	0	S 0010018
SOUTHWEST AIRLINES CO	NEW ORLEANS	LA	MATCHES SAFETY	F. S.	79/12/18	LUGGAGE	17	0	0	0	S 0010021
FEDERAL EXPRESS CORP	MEMPHIS	TN	INK	F. L.	79/12/19	17E	11	0	0	0	S 0010006
FEDERAL EXPRESS CORP	MEMPHIS	TN	CEMENT LIQ NOS	F. L.	79/12/21	37C	1	0	0	0	S 0010014
ROYAL HAWAIIAN AIRWAYS INC	HONOLULU	HI	CORP PAINT REMOVE F	F. L.	79/12/27		0	0	0	0	0010020
DELTA AIR LINES INC	NEW ORLEANS	LA	R.A.M. N.O.S.	R.A.M.	79/12/30		0	0	0	0	0010003

RECORDS ARE SORTED BY INCIDENT DATE.
523 RECORDS FOUND

****

TOTALS: DEATHS = 0 *** INJURIES = 49 *** DAMAGES = $37,196
VEHICULAR ACCIDENTS/DERAILMENTS = 1
EVACUATIONS = 1

RECORDS ARE SORTED BY INCIDENT DATE.

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STATE CODES

LETTER CODE	FIPS* CODE	REGION CODE	STATE
AL	01	04	ALABAMA
AK	02	10	ALASKA
AZ	04	09	ARIZONA
AR	05	06	ARKANSAS
CA	06	09	CALIFORNIA
CO	08	08	COLORADO
CT	09	01	CONNECTICUT
DE	10	03	DELAWARE
DC	11	03	DISTRICT OF COLUMBIA
FL	12	04	FLORIDA
GA	13	04	GEORGIA
HI	15	09	HAWAII
ID	16	10	IDAHO
IL	17	05	ILLINOIS
IN	18	05	INDIANA
IA	19	07	IOWA
KS	20	07	KANSAS
KY	21	04	KENTUCKY
LA	22	06	LOUISIANA
ME	23	01	MAINE
MD	24	03	MARYLAND
MA	25	01	MASSACHUSETTS
MI	26	05	MICHIGAN
MN	27	05	MINNESOTA
MS	28	04	MISSISSIPPI
MO	29	07	MISSOURI
MT	30	08	MONTANA
NE	31	07	NEBRASKA
NV	32	09	NEVADA
NH	33	01	NEW HAMPSHIRE
NJ	34	02	NEW JERSEY
NM	35	06	NEW MEXICO
NY	36	02	NEW YORK
NC	37	04	NORTH CAROLINA
ND	38	08	NORTH DAKOTA
OH	39	05	OHIO
OK	40	06	OKLAHOMA
OR	41	10	OREGON
PA	42	03	PENNSYLVANIA
RI	44	01	RHODE ISLAND
SC	45	04	SOUTH CAROLINA
SD	46	08	SOUTH DAKOTA

* NOTE: Only codes 01 through 56 are Federal Information Processing Standards codes

Data Base - STATES.DMS

STATE CODES

LETTER CODE	FIPS* CODE	REGION CODE	STATE
TN	47	04	TENNESSEE
TX	48	06	TEXAS
UT	49	08	UTAH
VT	50	01	VERMONT
VA	51	03	VIRGINIA
WA	53	10	WASHINGTON
WV	54	03	WEST VIRGINIA
WI	55	05	WISCONSIN
WY	56	08	WYOMING
PQ	81	00	CANAL ZONE
AQ	82	10	AMERICAN SAMOA
CN	83	00	CANADA
GQ	84	09	GUAM
PR	85	02	PUERTO RICO
VQ	86	02	VIRGIN ISLANDS
XX	87	00	STATE UNKNOWN
ZZ	88	00	FOREIGN COUNTRY

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HAZARD CLASS CODES

CLASS CODE	CLASS ABBREVIATION	HAZARD CLASS	DEFINITION (CFR 49)
02	ORM-A	OTHER REGULATED MATERIAL,CLASS A	173.500(a)1
04	ORM-B	OTHER REGULATED MATERIAL,CLASS B	173.500(a)2
06	ORM-C	OTHER REGULATED MATERIAL,CLASS C	173.500(a)3
08	ORM-D	OTHER REGULATED MATERIAL,CLASS D	173.500(a)4
10	ORG PER	ORGANIC PEROXIDE	173.151(a)
12	BLAST A	BLASTING AGENT	173.114a(a)
20	COMB L	COMBUSTIBLE LIQUID	173.115(b)
25	F. L.	FLAMMABLE LIQUID	173.115(a)
30	F. S.	FLAMMABLE SOLID	173.150
35	OXIDIZR	OXIDIZER	173.151
40	COR.L.	CORROSIVE LIQUID(NO LONGER USED)	
45	NONF.G.	NONFLAMMABLE COMPRESSED GAS	173.300(a)
50	F. G.	FLAMMABLE COMPRESSED GAS	173.300(b)
55	POIS A	POISON GAS OR LIQUID, CLASS A	173.326
60	POIS B	POISON LIQUID OR SOLID, CLASS B	173.343
65	IRR	IRRITATING MATERIAL	173.381
70	R.A.M.	RADIOACTIVE MATERIAL	173.389
75	EXPL.A.	EXPLOSIVES, CLASS A	173.53
80	EXPL.B.	EXPLOSIVES, CLASS B	173.88
85	EXPL.C.	EXPLOSIVES, CLASS C	173.100
90	ETIO.A.	ETIOLOGICAL AGENT	173.386
95	COR	CORROSIVE MATERIAL	173.240

NOTE: Reclassification of some commodities has occurred due to changes in the regulations.

Data Base - CLASS.DMS

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CONTAINER FAILURE CODES

CODE NUMBER	ABBREVIATION	DESCRIPTION
01	DROPPED	Dropped in handling
02	EXT PUNCT	External puncture
03	OTHER FRT	Damage by other freight
04	WATER	Water damage
05	OTHER LIQ	Damage from other liquid
06	FREEZING	Freezing
07	EXT HEAT	External heat
08	INT PRESS	Internal pressure
09	CORR-RUST	Corrosion or rust
10	DEF FVC	Defective fittings, valves or closures
11	LOOSE FVC	Loose fittings, valves or closures
12	INNER REC	Failure or inner receptacles
13	BOTTOM	Bottom failure
14	BODY-SIDE	Body or side failure
15	WELD	Weld failure
16	CHIME	Chime failure
17	OTHER	Other conditions
18	HOSE BUST	Hose burst (during loading/unloading of tank trucks)
19	LOAD-UNLD	Loading/unloading spill (involving tank trucks & trailers)
20	IMP BLOCK	Improper blocking/bracing (cargo shifted, fell over, etc.)
21	IMP LOAD	Improper loading(upside down, on its side, heavy freight on top)
22	VEH ACC	Vehicular accident or derailment
23	VENTING	Venting (automatic or intentional manual venting)
24	FUMES	Release of fumes only (any type of container)
25	FRICTION	Friction (between containers or containers and vehicle)
26	STAT ELEC	Static electricity
27	METAL FTG	Metal fatigue

NOTE: Code numbers 18 through 27 were added to the incident report data base in JANUARY 1976.

Data Base - FAILCD.DMS

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RESULT CODES

CODE NUMBER	ABBREVIATION	DESCRIPTION
1	None	NONE
2	Fire	FIRE
3	Explosion	EXPLOSION
4	Fire & Explos	FIRE AND EXPLOSION
5	Spillage	SPILLAGE
6	Spill & Fire	SPILLAGE AND FIRE
7	Spill & Explos	SPILLAGE AND EXPLOSION
8	Spill-Fire-Exp	SPILLAGE, FIRE AND EXPLOSION

NOTE: The above codes were added to the incident report data base in JULY 1973.

Data Base - RESULT.DMS

Mr. ANDERSON. The second question I have is that I have examined the level of appropriations which the Office has received since 1975. The appropriation level is consistently less than that authorized by this committee. Can you give me the reason for this? If you can do that briefly, I would like to have you do it right now.

Mr. DUGOFF. I would like to do that. It is my judgment, Mr. Chairman, that in the past, the Department has not been as aggressive in pursuing appropriations, as I believe the actions of this committee would suggest the Congress felt we should be.

It is recognition of this which in large measure has prompted us this year to seek—and I am delighted to report, succeed—in obtaining an appropriations request through the OMB which more than doubles the current level of appropriations and which, indeed, if the $9 million were to be authorized, would precisely correspond.

Mr. ANDERSON. Are there any further questions?

[No response.]

Mr. ANDERSON. If not, then I move that the Subcommittees on Surface Transportation and Aviation be discharged of further consideration of H.R. 6937, the bill to amend the Hazardous Materials Transportation Act, and H.R. 6938, a bill to amend the Independent Safety Board Act of 1974.

Mr. STANGELAND. Second.

Mr. ANDERSON. It has been moved and seconded. All those in favor, signify by saying "Aye".

[A chorus of ayes.]

Mr. ANDERSON. Opposed?

[No response.]

Mr. ANDERSON. It is carried. That concludes our hearing.

I want to thank you, Mr. Dugoff, Mr. Pierson, Mr. Santman, and Mr. Lally, for your presentation. We just made it under the wire.

The meeting is adjourned.

[Whereupon, at 12:40 p.m., the subcommittees were adjourned.]

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